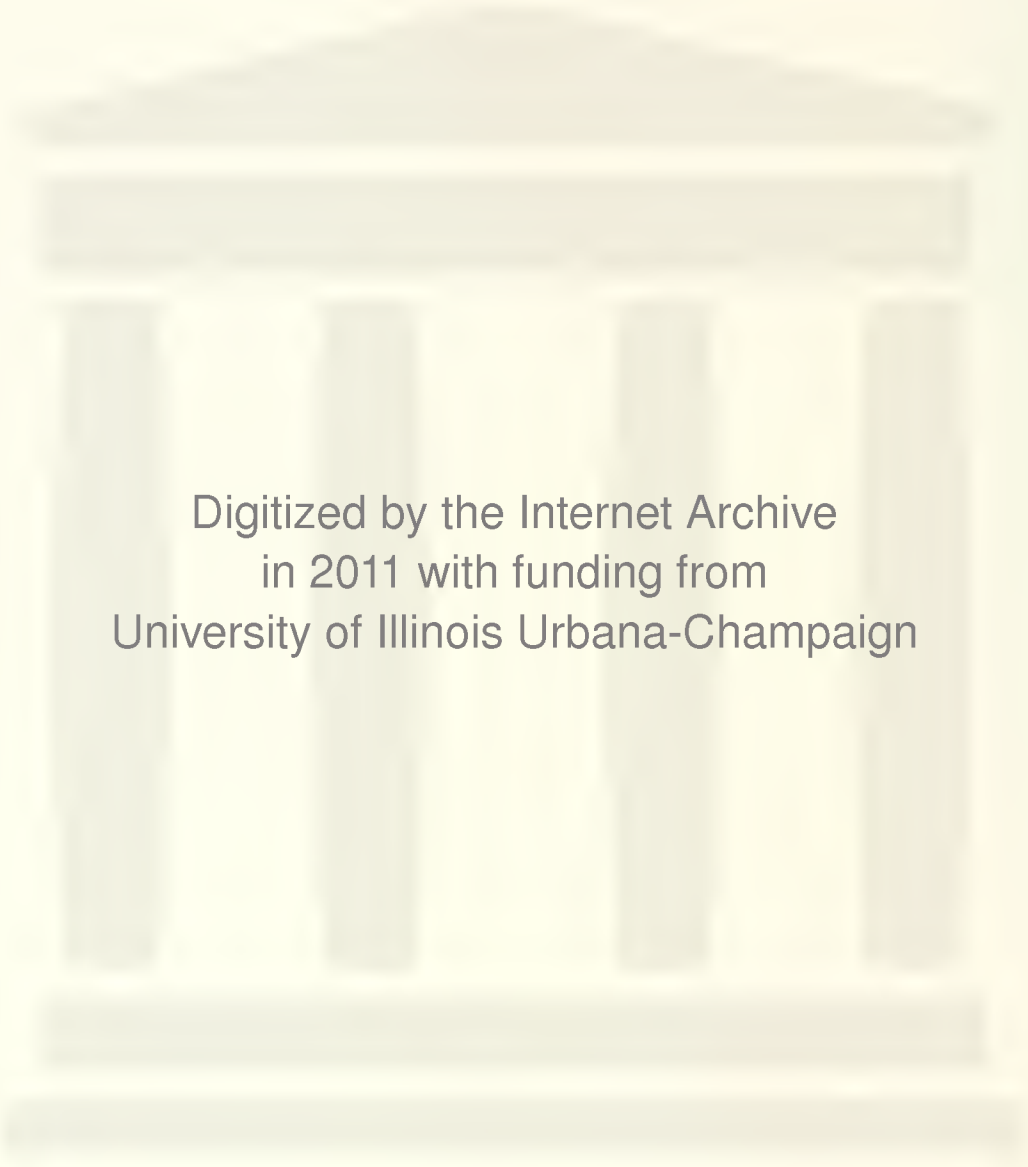

DEVELOPMENT COMMUNICATIONS IN THE THIRD WORLD

Proceedings of a Midwest Regional Symposium at th University of Illinois at Urbana-Champaign April 15, 1983

International Agriculture Publications
General Series Number 2

College of Agriculture
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SPONSORED BY THE INTERNATIONAL COLLOQUIUI

Edited by
Vickie A. Sigman

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May, 1984

Foreword

The University of Illinois Office of International Agriculture is pleased to add to its General Publications Series these proceedings of the Symposium on Development Communications in the Third World sponsored by the International Colloquium. In keeping with the interdisciplinary approach of the International Colloquium, this symposium focused on development communications relating to education, health care, and agriculture. The deliberations of the symposium and the papers in these proceedings demonstrated the major role communications efforts can play in development.

We are pleased to share these proceedings with a wider audience than the direct participants in the symposium. Those who participated in planning and conducting the symposium, primarily busy graduate students in the International Colloquium, are the ones who gained the most from the experience. These students, who contributed to the symposium with limited faculty and administrative support, are to be commended for their ideas and efforts. The symposium and these proceedings add to a series of contributions already made by the International Colloquium to the University of Illinois at Urbana-Champaign. Special recognition is due the symposium co-chairs, Joseph Seepersad and Vickie Sigman.

William N. Thompson, Director
Office of International Agriculture
College of Agriculture
University of Illinois at
Urbana-Champaign

Preface

The papers included in these proceedings are the direct outcome of questions and concerns about the role of development communications in the Third World. This issue was examined at the Midwest Regional Symposium on Development Communications in the Third World held April 15, 1983, at the University of Illinois at Urbana-Champaign. The primary goal of the symposium was to provide an opportunity for participants to discuss development communications as they relate to agriculture, health care, and education in the Third World.

The proceedings reflect an interdisciplinary approach to development communications. Further, communications research and practice are addressed from both theoretical and applied perspectives. Emile McAnany's keynote address outlines the movement in communications thinking from modernization to dependency and beyond. Responses to his address are given from the viewpoints of specialists in communications research and agricultural communications. The next two papers target political dimensions, while the following articles concentrate on the practical applications of development communications. Finally, Michael Braden summarizes a number of the critical questions that emerged from these presentations.

The idea to hold a symposium originated with the International Colloquium, an organization of students, community members, and faculty from this campus. The International Colloquium, a voluntary multidisciplinary group, focuses on issues of international development and meets regularly to voice concerns, share ideas and experiences, and stimulate new thinking. The symposium and these proceedings represented a significant undertaking for the Colloquium and required the efforts and support of many people. The International Colloquium acknowledges the contributions of these individuals with sincere thanks and appreciation.

Members of the planning committee managed to balance households, classes, preliminary examinations, proposals, and dissertations and plan for the symposium. They were: Nancy Gillard-Byers, Carla W. Heath, Eldon L. Johnson, Timothy L. Koehnen, Shashi Kolavalli, Joseph Seepersad, and Vickie A. Sigman. Many Colloquium members gave additional help: particularly Joyce Dusenberry, Wojciech Florkowski, and Robert D. Porter.

Members of the editorial committee who helped to produce these proceedings were: Zainul Azizan Aziz, Thomas Guback, Mary Keith, Timothy L. Koehnen, and Robert D. Porter.

Support for the symposium was provided through the offices of long-standing Colloquium supporters: William N. Thompson and Earl D. Kellogg, Director and Associate Director, Office of International Agriculture; and Burton E. Swanson, Liaison Officer, Midwestern Universities Consortium for International Activities. The Office of International Programs and Studies, and the Institute of Communications Research, under the directions of Robert Crawford and Howard Maclay, respectively, provided additional support.

We are pleased to make this publication available to those who are interested in international development and development communications.

Vickie A. Sigman, Editor
International Agricultural Education
University of Illinois at
Urbana-Champaign

KEYNOTE ADDRESS

From Modernization and Diffusion to Dependency and Beyond: Theory and Practice in Communication for Social Change in the 1980s

EMILE G. McANANY

By the mid-1970s it seemed safe to conclude that the dominant paradigm had 'passed', at least as the main model for development in Latin America, Africa and Asia...We summarize these newer conceptions of development by defining development as a widely participatory process of social change in a society, intended to bring about both social and material advancement (including greater equality, freedom, and other value qualities) for the majority of the people through their gaining greater control over their environment.

Rogers, "Communication, and Development: The Passing of the Dominant Paradigm" (1976).

Standing, as we do, at the threshold of what some have enthusiastically termed the "information age" where high technology promises not only to make communication the heart of all social activities but also the heart of our economics, we might recall that 1984 is upon us as well. There are others among us who fear that we are entering the world of big brother, newspeak, and watchful technology that Orwell foresaw. But for the mass of the world's population, it may not be modern threats of technology but the age old threats of hunger, poverty, disease, and naked violence that seem most pressing. If questioned, they might wonder why academics create a fuss over paradigms, or technology, or theories of development.

Almost a decade ago Everett Rogers said of the old development (and communication) paradigm that it could be safely concluded that "it had passed" and that new approaches were promoting new paths to development. The burden of this paper is to take another look backward in order to take another look forward as well to see where the new paths have taken us and where they are or are not -- likely to lead us in the future.

LOOKING BACKWARD: OLD PARADIGMS AND PRACTICES

First Generation of Communication Paradigms

The thinking on communication in development must begin with development thinking itself. Many writers were in agreement with Rogers' observation that by the mid-1970s many of the older approaches were not working and needed reexamination, if not discard. A number of development thinkers (mostly economists) gathered in Houston in 1977 to explore a "New Strategy for Development" (Hill 1979). The take-off theory of Rostow or the savings and industrialization emphasis of Nurkse were, of course, criticized by Seers, Streeten, Cardoso, Hirschman, and others in the conference.

Most of those gathered seemed to agree that the development record of the previous 25 or 30 years had discredited the ability of neoclassicial economic theory to predict development in Third World countries. They also seemed to think that the theories of Marx and other critical thinkers had contributed to a better understanding of the development process as an interaction between center and periphery countries and their economics. Seers (1979) and Streeten (1979) tended to place pragmatism above either neoclassical or Marxist theory and argued that neither Keynes nor Marx had arrived at solutions to the complex problems of development facing Third World countries. On the other hand, the inclusion of Cardoso from Brazil (1979) was a clear indication that dependency thinking had entered the mainstream of development thinking.

What, then, had happended to the old orthodoxies of the 1950s and 1960s? Had we lost the vision of Daniel Lerner in his early examples of the modernization paradigm, *The Passing of Traditional Society*

Emile G. McAnany: Professor, International Communications, Department of Radio, Television and Film, University of Texas at Austin.

(1958), or of the other paradigm, Rogers' own, in *Diffusion of Innovation* (1962) or *Communication of Innovations* (1971)? It's true that modernization had an important update in 1974 when the long-awaited work by Inkles and Smith, *Becoming Modern*, was published, but the aftermath was anticlimatic. Although some discussion was sparked in subsequent book reviews--some supportive, but more critical--the research area has been almost completely abandoned since then. It is also true that Rogers has been self-critical about the role of diffusion in development (1976), but Rogers has recently come out with another edition of his classic text (1983). It is too early to tell whether or not this edition will be well received in development circles.

New Development Paradigms: Dependency's Entry

The history of the shift in development thinking has been adundantly provided in the literature of the past ten years. A good summary can be found in the Houston conference cited above, and the conclusions were summarized by Streeten (1979) in his article. He said that by 1977 the following ideas, among others, had been discarded: the Marshall Plan analogy (i.e. European economic take-off after World War II) as appropriate for Third World development; priority on heavy industrialization; a centralized planning approach; import substitution and creation of internal vs. external markets; trickle-down theory from highly developed modern sectors; GNP growth as the indicator of development; technical assistance and capital inputs as mechanisms for growth; the Third World as a homogeneous group of countries; the "problem" of under-development as internal to the Third World.

Streeten's views of new strategies for the future were a summary of much of his colleagues' thinking, as well: a basic needs approach for the majority of the poor through improved social services; emphasis on distribution with growth as a measure of development; agriculture as the priority sector of the economy and provisions of credit, inputs, information, and market infrastructure for the poor; labor intensive and other appropriate technologies; emphasis on the social and political, as well as the economic, nature of development. He concluded that the lessons of the past 25 years of development thinking showed that both Keynes' emphasis on great ideas and Marx's emphasis on the economic interests of the ruling elite have not adequately explained the complex and sometimes contradictory notion of development.

On the whole, Streeten's list is not dissimilar to the one Rogers (1976) detailed for the related field of development communications and where he proclaimed that the old paradigm had "passed." What remained unclear in the treatment by Rogers were three questions that we need to examine if we are to interpret the "alternate pathways to development" that he went on to identify. Those questions concern (1) the centrality of a critical or dependency theory to the new approaches, (2) the definition of a paradigm and what would constitute its' passing away, and (3) the differentiation between what we would like to see happen (normative statements) and what we expect will happen (descriptive or empirical statements) or, put another way, the difference between theory and practice.

The development thinkers at the Houston meeting acknowledged the strong contribution of Marxist and neomarxist theory to the evolution in thinking about development. Rogers points to A.G. Frank's contribution to rethinking the older approach but concludes that "...Frank caused considerable academic rethinking about development. And the dust has not yet settled. His writings have served an important sensitizing function, but dependency theory is difficult to 'prove' empirically, even when tested by sociologists sympathetic to Frank's viewpoint."

This is all that is said about the matter and one could argue that at the time of the article was written in the mid-1970s this may have been enough. However, almost ten years later, we might want to reexamine whether this is sufficient treatment. In a 1983 publication, Tulchin, referring to emerging patterns of research among Latin Americanists, could conclude that:

> Without putting too fine a point on it, the past few years have seen Marxist analysis come out of the closet. This does not mean that all of us have converted to Marxism...What has occurred or is occurring is a gradual convergence of theoretical perspectives...There has been a gradual absorption into the mainstream of the principles and concepts of Marxist theory as well as of its structuralist 'cousins' such as dependency, human ecology, and world-system theory. While there is great benefit in the interpretation of theoretical perspective, there is danger as well... in other words, of replacing the crippling control of modernization and

> development theory of the 1950s and 1960s with a new paradigmatic orthodoxy..." (p. 89)

The author goes on to say that this overbalance can be countered by the convergence of the functionalist and empiricist methodologies with structuralist theory, so that the blending of the two major intellectual traditions (empiricism and dependency) will "enrich our research agenda and quickly spin off new schools critical of this burgeoning orthodoxy" (dependency). We are reminded by this citation, then, that paradigms do seem to replace one another, and we are called to look more closely at what, in this context, a paradigm might mean.

Paradigms as Research Complexes

Unfortunately Rogers does not define his use of the word paradigm. But others have discusseed the matter at length and provide us with a more refined notion. Alker and Hurwitz (1980), for example, refer to a scientific paradigm as a "research paradigm complex," meaning that we need to talk of a paradigm as a social activity of scholars and not an abstract idea.

They define the elements of the complex as follows: *external research situation* (funding and social pressure among scholars toward an approach); *core beliefs* (pretheories, models of man and society, normative interpretations, epistemological standards of evidence); *coherent scholarly community* (a group of scholars sharing core beliefs); *originating exemplars* (a major systhesis of the paradigm, as Lerner's *Passing* [1958] or Cardoso and Faletto's *Dependency* [1969]); *symbolic relationships* (the derivation of testable hypotheses from more general theory, as Inkles and Smith in *Becoming Modern* [1974] or Rogers and Shoemaker's *Communication of Innovations* [1971]); *a literature of "successes"* leading to new questions (eg. the enormous Latin American literature of structural analysis testing dependency notions.)

If we examine these elements briefly concerning the old (moderization/diffusion) and new (dependency/structural) paradigms for the development communication area, some illuminating insights emerge. First, concerning the *external research situation*, the huge funded projects that lay behind the Inkles and Smith (1974) project or that of Rogers (1970) in the 1960s were not available in the 1970s--and are even less so in the 1980s. Some may argue this is why these paradigms are losing ground. The dependency theory, on the other hand, attracted modest funding in the 1970s but does not seem to need large funding to pursue its research questions.

Next, *core beliefs* are crucial areas on which paradigms differentiate themselves. For example, by 1974, when *Becoming Modern* was finally published, the full-scale attack on moderization in development studies had already been mounted. A number of critical reviewers did not criticize the fine points of methodology of the Inkles and Smith book but rather the whole set of questions the authors had chosen to investigate (Lazarus, 1982).

Many of the critical scholars in communciation during the 1970s attacked the older paradigms not for what they had done, but what they had failed to do (Golding, 1974; Felstehausen, 1973; Grunig, 1970; Roling, Ascroft & Chegg, 1976; Beltran, 1974). The failures most noted by communication critics were ignoring the negative role of social structures in the applications of communication, and the lack of understanding of what structural change entails and how communication affected it (Beltran, 1976a).

Finally, several other factors of the paradigm complex have changed in the last decade. If one examines the literature from Latin America, there clearly has been a growth in a *scholarly community* supporting a structuralist or dependency approach in communication. Although we are not generally exposed to this literature, there has been not only a proliferation of communication schools in many Latin American countries, and consequent research by faculty and students, but also a great deal of book publishing and the emergence of journals and news letters over the past decade. Little of this is available to U.S. audiences in English and circulates only slowly ammong Spanish-speaking U.S. researchers (Beltran, 1976b). Even so, there has been only minor acknowledgement of this change by writers from the First World (Rogers, 1976; McAnany, 1980; Hedebro, 1982).

Tulchin (1983), cited above, indicates ample academic support, even too much he would say, for such an approach among Latin Americanists in general. It is difficult to point to examples in the form of books in the communication area that are equivalent to Lerner or Rogers, but several works concerning the notion of dependent development are found in Cardoso's *Dependency* (1979), Freire's *Pedagogy of the Oppressed* (1970) and, some would argue, Gutierrez's *A Theology of Liberation* (1973). The Nordenstreng and Varis (1974) UNESCO report on the imbalance in television programming flow throughout the world caused a stir of

activity on new international information order questions that captured most researchers' attention in the last decade and culminated in the UNESCO MacBride report (1980).

In the meantime, the literature on development and communication was struggling to transform itself from old to new paradigms, and dependency did not seem to offer an appropriate positive "exemplar" for this transformation. One reason for this, suggested by Lee (1980), was that dependency was good on diagnosis of the problem of the Third World but poor on prescription of the cure. But such an observation, though satisfying on the surface, does not get to the heart of the dilemma. Put in another way, we could argue that at this moment in 1983, the theory underlying much of the new international economic order argument in the 1970s has triumphed, while the possibilities for real economic change in the relations between the First and Third Worlds have failed.

In a similar way, the contradictions between the theory and practice of the new information order can be seen in the call for independence, self-reliance, and national control of communication resoures promoted by UNESCO's International Program for Development in Communication (IPDC), and the feeble response that it has generated among wealthy donor nations for the implementation of its projects. In short, as 1983 begins there seems to be a triumph in theory and a failure in practice.

The Theory/Practice Gap in Communications

This gap between the theory (whether it was of the old paradigms or the new) and the practice, as seen in the lives of individuals, may be attacked as a failure of theory to account for reality, or as the irrelevance of theory to practice. On the other hand, it may also argue for the failure of practice to heed theory. We need to expolore both of these possibilities.

It is clear that, in most scientific thinking, theory is an attempt to explain phenomena of the real world. The heart of the development problem over the last three decades lies in the series of contradictions that seem so glaring as to demand an explanation: Why is half the world's population in 1983 malnourished when there are food surpluses elsewhere? Why is the life expectancy 57 years in the poorest 33 countries and 74 in the advanced countries when science is a common heritage of mankind? Why, in 1980, was world-wide foreign assistance only $36 billion when expenditures on armaments was $550 billion? Why was the gap between the rich and the poor countries, in terms of economic wealth, growing instead of shrinking over the three decades of development efforts? (World Bank, 1982; IDA, 1982; Sivard, 1981).

There are, of course, a variety of perfectly reasonable responses to these phenomena. Development theories have focused on an explanation for this "problem" that Third World countries have had. It was Rostow (1959) who turned to economic history to explain the gap between First and Third World countries and predict that with certain prescribed ways of behaving, other countries could experience the take-off the West and Japan had achieved in the 19th and 20th centuries. It was the Economic Commission for Latin America (ECLA) group and Latin American thinkers like Sunkle and Cardoso who also turned to history in the early 1960s to explain why this expected take-off had not occurred in Latin America and could not, as long as the international economic system remained the way it was.

On the pragmatic side, in the 1970s the Organization of Petroleum Exporting Countries (OPEC), made an attempt to change the system and transfer some of the wealth from the First to a portion of the Third World's countries. Today, it is not at all clear whether the OPEC cartel will hold together, but it is clear that any new economic order is a long way down the road, if possible at all. And everyone seems to know what is wrong, yet no one seems to have a solution.

If this is true of the macro level concerning the economic growth of nations, what of the theories of communication in development? The scenario here has been much the same as in the economic sphere although there has been no equivalent of OPEC in communication. The disenchantment with moderization was noted by Inayatullah as early as 1965 in a meeting at the East-West center in the very presence of the creators of the old paradigms themselves. But it was the late 1960s and early 1970s when Grunig (1969, 1971) and his mentor at Wisconsin, Felstehausen (1974), first became cognizant of the discrepancy between communication paradigms and the reality of social structures in rural Latin America.

Rogers (1976) himself called together critics of his own paradigm and seemed to concede the passing of some kind of approach by the mid-1970s -- if not specifically of diffusion itself. Roling, Ascroft and Chegge (1976), Beltran (1976), and Bordenave (1976) all made specific critiques of diffusion. In a series of studies made in the latter part of the decade,

Contreras (1980), O'Sullivan (1980), and Lenglet (1980) tested the impact of information on a variety of rural audiences in Latin America and Africa and found the old paradigms lacking.

One might read this literature as an undermining of old theories rather than the creation of new, and justify the remark by Lee (1980) cited above on how certain approaches are good at diagnosis of the problem but poor on prescription. To address this probem we must turn to both theory and practice and begin the long, hard struggle for a new synthesis.

LOOKING AHEAD: INTEGRATING THEORY WITH PRACTICE

It would be tempting to begin this section with a series of predictions as to what communication's role might be in the theories of development for the 1980s or 1990s, but a more modest objective of this section will be to examine the context of development as it exists today, and then to conclude with some thoughts as to how the new paradigms might best be realistically incorporated into communication planning and implementation in Third World countries.

Examination of the context of development will center around the answers to four questions: (a) *What does communication mean* in the development thinking of today? (b) What are *world development priorities* as defined by major lending institutions (and are they the priorities of the Third World)? (c) What seem to be *the communication priorities* of Third World countries? (d) What seem to be the most promising areas of *change* that communication can assist in? The final section will attempt to answer a fifth question in light of responses to the other four questions: (e) What is the relationship of a new paradigm to practice for communication in the coming years?

What Does Communication in Development Mean?

There was a debate in the 1970s about the notion of development journalism (Aggarwala, 1980; Lent 1979) and considerable question about communication's role in development (Hornik, 1980; McAnany, 1980). The major change from previous paradigms, especially Lerner's in *The Passing of Traditional Society*, is the serious questioning of whether mass communications are an independent variable and a significant positive motor for change in development.

Hornik (1980) has argued that communication *can* be a "complement" to positive change under *certain conditions* but is *not* a variable *independent of context*. Dependency theorists of different schools have reintroduced the notion of communication as a powerful external force (of capitalism) generally hindering positive social change (Beltran & Fox, 1979; Mattelart, 1973, 1975). Some others have argued that viewing communication as a tool of an external imperialism, and giving the impression that it is too powerful to counter, is misplaced (Salinas & Paldan, 1979; Sarti, 1981).

The debate of the last decade has made it clear that communication is complex, and, moreover, it cannot, without danger of bias, be removed from its social context. As a first conclusion from this debate, it can be argued, as Felstehausen (1973) did early on, that communication *is part of a social system*.

We might add in the 1980s that the notion of social system has both national and international aspects. One of the few serious attempts to take the national context into account in studying a communication project was White's (1977) study of a Radio School in Honduras. The international context of communication projects refers, for example, to those international market influences that touch even the most remote rural areas. Esteva's (1983) description of the Mexican agricultural development policies indicate the acute problems of food sufficiency that Mexico has faced for almost two decades after it let international market forces dictate production (more on this below).

A second aspect of what communication and development has come to mean at present is related to the debate on development journalism and the New International Information Order (NIIO) discussions of the 1970s. It was argued that journalism in a given country should gear itself toward the promotion of national development goals and not simply follow the style of a western commercial press. On the whole, this approach was a positive one, but it contributed to some excessive cases, as in the Philippines (Encanto 1982), where the press simply became the arm for promoting government programs and proclaimed them successful as a form of propaganda. What has merged as a compromise between government-controlled and commercial media are a number of private, noncommercial groups who aim to provide information for development.

Two kinds of information for development are referred to in this context. The first comes from the series of development data bases, including one on agriculture--AGRICOLA--and others related to other areas of interest like health and technology (Mahan, 1981). The effort in development work is to make much of this information available to Third World users on a cost or even a subsidized basis.

The second kind of information service becoming avaialable through some alternative information groups concerns important news stories about and from the Third World, stories that the four major western news services do not generally provide. Inter Press Service (IPS), a nonprofit, cooperative news service with headquarters in Rome, has recently expanded and now has coverage of much of the Third World as well as First and Second World stories relevant to the Third World (Hall, 1983). Interlink, a new nonprofit group in New York which carries IPS stories to customers in the U.S., has just begun a computerized service that promises to get stories to newspapers and other development users in the U.S. cheaply and efficiently. Inter Press Service serves as a South-South link as well as a South-North one, linking Third World countries to each other as well as to developed countries. The role of IPS and similar services is to provide news about Third World development that represents a broader picture than the general crisis-oriented news of the commercial services.

Such alternative new services are ideological in the broad sense of helping to redefine news values about development and to break through stereotypes of western publics about what development means. This kind of information for the public could also serve to promote public support for foreign assistance in the First World and especially in the U.S.

What Are the Development Priorities of the 1980s

The stark realities of 1983 are that even the so-called advanced countries are facing high unemployment, inflation, and depressed exports. The OPEC cartel is in turmoil and seeking to support its major development investments through lower prices and pumping quotas. The promising new industrializing countries (NICs) like Brazil and Mexico are struggling with serious external debt burdens as well as slowdowns in exports. Finally, the so-called "low-income economies" (read "poorest countries") of the world are threatened with poor exports as well as lower levels of external aid and are literally struggling for survival. The mood has changed a great deal from the mid-1970s when OPEC had fired up expectations about New International Economic Order (NIEO) possibilities and other strategies for exerting pressure and North to South transfers were seriously being pressed.

At this point in time, the reality of international economic structures and their resistance to change has begum to sink in for Third World countries, as has the political reality of how the Northern countries can resist even the acute pressures of the OPEC decade. The nonaligned group of nations recently made their periodic protest against unjust international structures in New Delhi but they have also recognized that change is neither easy nor rapid. One new insight to emerge within the constraints of the current depressed economic circumstances is the realization by the Third World that if their economic prosperity is indeed tied to that of the First World (confirming much of the dependency analysis of the 1970s), it is also true that the First World private financial system is now dependent upon the large debt-burdened borrowers of the Third World. If a Brazil, or Mexico, or Nigeria were to default on their payments, there would be omnious consequences for the international economic system.

Some might cheerfully call this an increase in "interdependence" but, given the adversarial nature of NIEO, we might more rightly call it a two-way dependency relationship. The consequence has been that the help that the Third World demanded in NIEO in the last ten years, and did not receive, may be more quickly forthcoming in the harder times of what we might call the post-NIEO period. As a consequence, the U.S. and the International Monitary Fund (IMF) have quickly moved to reschedule debts for troubled countries and have agreed to increase help to the poorest countries through the World Bank (WB) and the International Development Association (IDA).

We should look at what priorities these major lending agencies have for development over the next few years in order to assess realistically where major aid funding will go. The priority for almost all major multilateral aid institutions is a concentration on the rural poor (the overwhelming majority of the 33 low-income nations and the absolute majorities in many middle-income countries as well). What does this mean? It means in many countries a series of concrete objectives such as the

following: (1) an increase in the production of food for internal consumption; (2) an increase in agricultural research adapted to the local conditions; (3) an increase by government in allocations to agricultural budgets; (4) an examination of incentive structures for agricultural production; (5) an increase in the provision of agricultural infrastructure (irrigation, transport, market networks) and the provision of credit, inputs (fertilizers, etc.), technology, and information; and (6) an increase in social service for rural populations (education, health, nutrition, family planning) (World Bank, 1982; IDA, 1982).

What this focus entails is the shift of attention from simply increasing agricultural output (as was the case of the Green Revolution), to a concern for the majority of small farmer producers in many countries (who could not participate in the economic benefits, but often bore the social costs, of the Green Revolution). What this shift may entail is emphasis on the most difficult part of the problem, the social and economic structures that have refused more than a subsistence living to majorities of rural people in many Third World countries.

The increased urgency of agrarian reform is only one of the more acute problems in land scarce regions (e.g. Central America, north-east Brazil). In addition, are problems of the sheer size of the need (these are majority populations), isolation (they have been least attended by government agencies), bureaucracy (can governemnt agencies efficiently administrate large projects?), and international pressures (can governments resist transnational interests working against food sufficiency?).

The question of whether these development priorities concerning the rural poor are priorities of governments is difficult to answer. The bloody struggle for agrarian reform in Central America, and specifically El Salvador, is an indicator that changes for the poor rural majorities will not be easy because changes in land tenancy often threaten the interests of local land holders. The threats to vested international interests among agribusinesses is outlined by Esteva (1983) in his analysis of Mexico's great food dependency in the 1980s after being a net exporter of food twenty years earlier. There are, however, major efforts by some governments to invest in projects for improving the lives of their rural majorities in areas of agricultural productivity and of social services like education, nutrition, and health.

Many governments and members of the development community who were disenchanted with the results of the earlier communication-development paradigms are, under new paradigm assumptions, turning once again to communications as an important tool for change.

What are Third World Communication Priorities and Expectations in the 1980s?

It is impossible to describe accurately communication priorities for Third World countries in the 1980s, but perhaps some guesses can be made about the expectations raised during the past decade of debate over a new international information order. The culmination of the debate was the publication and approval of the findings and recommendations of the UNESCO committee headed by Sean MacBride (UNESCO, 1980). The nature of the document called the MacBride Report *(Many Voices, One World: Communication and Society Today and Tomorrow)* has been examined and criticized by a number of authors. But for all the shortcomings of such a compromise document, it probably does identify many of the expectations and aspirations of Third World countries concerning communications. In the last chapter, the commission lists a series of some eight areas of recommendations on how to overcome the obstacles as well as take advantage of communication technologies and practices for achieving national development goals and improved international cooperation. We will focus on four that seem most central.

New technologies and information's role in development. The report seems to prefer the rapid incorporation of the new information technologies (satellites, computers, telecommunications, and broadcast) into the development plans for all countries. Although some cautions are voiced about the problems of giving priority to high technology, the commission seems to feel that countries that do not follow this policy will be left behind in this rapidly developing sector of many economies in the First World. What is not clear in the text are the answers to a number of the problems facing such a national policy decision, although others have noted these elsewhere (H. Schiller, 1981; Rada, 1981; D. Schiller, 1982). What may be more relevant in this paper is the question of whether a highly modern information sector in a Third World economy can directly or indirectly contribute to the rural poor. We will touch on the answer to this question below.

New communication and cultural policies. The MacBride Commission has placed

a good deal of emphasis on the formation of national communication policies in which development goals are integrated with communications development (from creation of infrastructure to improved training). The notion is a sensible one that sees the sum of national resources in communication as an important sector of the economy to be placed at the service of national development.

Two problems arise, however. First, in many countries that have large privately-owned commercial media sectors (most of Latin America and an increasing number of countries in Asia), owner interests do not necessarily coincide with those of the nation. Second, even when a nation controls the major portion of its communication resources, the success it has in redirecting these resources toward rural populations and equalization policies between urban and rural areas is problematic at best (cf. The Peruvian experience in the 1970s, Atwood & Mattos, 1982).

The concern over the cultural impact of imported television programs and other cultural products, along with the influence of a transnationalized media advertising base, (Lee, 1980; Mattos, 1982; McAnany, in press) has prompted a number of countries to develop policies to protect their cultures. Without incorporation of mechanisms to implement actions protecting and promoting local cultures, however, the reality in most countries seems to be that, like communication policies, cultural policies may become only official aspirations or goals.

Alternatives for democratization and participation. A theme that runs through much of the MacBride Report is an idea commonly espoused by governments: access of all peoples to communication and information, and their right to freely communicate.

Although the idea of participation is an attractive one and one to which writers have begun to give serious attention (Somovia, 1981; Reyes Matta, 1981), the problems facing its implementation are both theoretical (Jouet, 1980) and practical (O'Sullivan & Kaplun, 1980). For rural people the problems may be multiplied by the lack of communications infrastructure, even of the most rudimentary kind (Shore, 1980). Nevertheless, there is sometimes an advantage in isolation. The point not made in the MacBride Report but emphasized by several of the writers mentioned above is that if democratization first occurs in a community then the community will make use of communications resources and technology to serve its own purposes.

The International Program for Development in Communication (IPDC). During the 1970s as western commercial media and many western nations tried to fight off the "attacks" of UNESCO and the new information order supporters, there was confrontation over the issues. Finally, as many First World nations began to conclude that problems indeed existed in the distribution of information around the world, some, like the U.S., responded with promises of international aid for infrastructure and training. The IPDC, proposed by UNESCO subsequent to the Belgrade meeting in 1980 as the multilateral agency for the distribution of this aid, became the focus of great expectations by many Third World countries. The hope was that after all the acrimonious debate stirred up by the NIIO, the First World would commit significant funds for communication purposes. But after a meeting in Acapulco in July of 1982, it became clear that funds would not be forthcoming in sufficient amounts to fund even a small amount of the needed infrastructure and training.

Several reasons can be suggested for this failure. The recession in 1981-82 meant a lowering of all aid given by the First World. The preference of many countries, especially the U.S., is for bilateral giving that links aid more closely to foreign policy considerations. The more basic reason, however, is one underlying the NIEO debates on reduction in the economic advantages long held by the West over the Third World: dominant nations ask, how does IPDC serve the interests of the West?

With the oil threat abating somewhat for the time and the free flow/sovereignty issue of NIIO somewhat shelved after the MacBride Report publication, the West seems in no hurry to make good on promises made at the height of the controversy of five years ago. Nor is it clear that the international aid agencies like the World Bank and IDA, or the major bilateral agencies like the U.S. Agency for International Development or the French FAC are doing more in this area. We might ask, then, apart from international aid, what can communications contribute to rural development and what is the likelihood of implementation over the next few years.

What are the Potential Areas of Change in Communication?

There are three areas where the evidence seems to indicate that there is real potential that communications can be applied to the benefit of poor rural majorities with some reasonable promise of success.

In each case, however, we will need to carefully define the underlying assumptions.

People organizing. There are often two very contrary assumptions at work in rural communications efforts: one is that rural poor people are willing and able to organize and can have rapid impact on their environment once they are organized; the other is that organizations of rural people are difficult to begin and even more difficult to maintain. In a sense, both are right. It seems that significant change in rural areas can not take place without the mobilization of the poor majority. But it is also true that the success of such mobilizations is unfortunately rare. For people interested in communications' role in significant change in the rural Third World, mobilization seems a *sine qua non*. Whether it is happening and how it can work are very different stories. We provide three brief examples to suggest how in some circumstances it can happen and does succeed.

The Latin American Radio Schools are organized into an international association (ALER) with over 40 members of private groups (usually but not always with affiliations with the Catholic Church) who operate (or in a few cases lease time on) radio stations to reach millions of the rural poor throughout 19 Latin American countries. In a recent stdy of 27 of its affiliates (ALER, 1982), several conclusions became clear. Most of the Radio Schools had not only survived over a number of years (most were begun in the 1960s), but their audiences semed to have increased. There was an even greater need to bring the information and support to audiences now than ten or twenty years ago. The other conclusion was that the Radio Schools were fundamentally an *organization of people* rather than a social service, and that their strength related to the continuing need of the audiences, to the dedication of Radio School organizations and their identification with the needs and lives of their audiences. In this context, the content or ideology of the programs is as important as the techniques used to reach audiences (largely by radio, print, and face-to-face contact.)

The second example is closely related to the first, viz. the network of Church related *comunidades de base*, or base Christian communities, that has grown up in Latin America over the years since the Catholoic Bishops of Latin America officially proclaimed their solidarity with the poor at the Medellin Conference in 1968 (Lernoux, 1980). It was said that a major threat to the government party in the 1982 national elections in Brazil were the more than 80,000 base communities among the poor. These communities are essentially a functioning network of people who carry out certain communal activities that are religious, social, and political. Some would say that interpersonal communication is the fundamental underlying activity, but these communities have mobilized other forms of communication, including the mass media (e.g. through the Radio Schools) in struggling for their basic human and civil rights.

The third example comes from Mexico, where in 1980 the government promoted a major effort to increase agricultural productivity by giving the majority small peasant producers a significant amount of aid in the system called SAM (Sistema Alimentaria Mejicana). Esteva (1983) indicates that the Mexican peasants responded with a 50% increase in production in one year but that after a year, bureaucratic and political pressures meant that the system was beginning to be undermined. The point Esteva makes, however, is that this brief interlude indicates that peasants, otherwise left to themselves but with enough material support, can organize themselves into highly productive work units. This argument is basically a people mobilization argument that goes contrary to much received wisdom that outside organization and prior education are prerequisites for any increase in productivity among small farmers. Just as media have for so long carried stereotypes of the backward peasant, they could be turned to the opposite task of promoting peasant control of agriculture.

Substantive areas of rural need. In addition to the focus upon mobilizing people for change, the areas where communication might affect rural development will be those where need has been identified as the most significant: agricultural productivity for small as well as large farmers; and rural social services such as education, health, and nutrition. The potential for change in those areas may only be as great as the circumstances of the given countries. Where governments are unwilling to promote changes or allow the rural poor to mobilize for their own changes, the potential is negligible.

In the areas of agricultural productivity, the use of information to encourage innovation adoption has been demonstrated

in several projects (AED, 1978; Hornik, 1982), but no final conclusions about effectiveness have been reached. If government attention to agricultural productivity and aid provided by bilateral and multilateral agencies are an indication of the urgency of a problem, then the increase in productivity is of critical importance. The contribution to increased productivity in agriculture will be an area of continuing interest to lending institutions as well as to countries.

In the health and nutrition fields, there are several promising projects that may lead to improvements for rural populations. The idea of using advertising for purposes of social marketing of family planning techniques has had some success. The same idea applied to health and nutrition was tried in several pilot projects (Cooke & Romweber, 1977), but it is now being given more carefully controlled trials in Honduras and the Gambia. The basic idea is that brief messages, carefully constructed and repeated over six months on the radio, can provide a genuine learning mechanism about applying simple health and nutrition practices by rural audiences. This approach has the advantage of not depending on field personnel or printed material reaching isolated rural audiences, lowers costs, and increases effectiveness. Preliminary results indicate promise in the learning and even practice area, but it is too soon to examine impacts on health status (Stanford, 1983).

In education, the hope of providing schooling to the rural populations depends heavily on the willingness of traditional ministries of education to adopt nontraditional strategies to reach people in a "distance education" mode where people learn on their own or in informal groups. The evidence for young adults, teachers, and working people is encouraging, but evidence of its broad application to rural adults is still lacking (McAnany et al, 1983). Nevertheless, in times of reduced budgets and growing educational needs, the use of communication technology to bring information and education to people will continue. The Peoples Republic of China has undertaken a major modernization effort and within three or four years has developed the largest open university in the world. It is estimated that it may be serving as many as a million students via television within a few years.

New technologies and rural development. The final area of promise is the variety of communication technologies now available on the international markets. But such technology has an "uncertain promise" as Goulet (1977) has pointed out. What seems most cost-effective for one group may be counterproductive for the society as a whole. Nevertheless, we should comment briefly on those technologies that may offer benefits for rural populations if employed carefully within the context of each country.

Satellites. There are currently an increasing number of Third World countries leasing time from INTELSAT for internal telecommunications use. In addition, a number of larger countries are moving toward purchasing their own domestic satellites. Indonesia was the first country to do so several years ago, and the record is not clear as to whether or not this technology has provided the rural majority with concrete benefits that justify the enormous costs. India had a one-year experiment with a satellite in a project called SITE, and has moved ahead to build its own Satellite system, which is now operational. Both Brazil and Mexico have contracted for satellites to be launched in early 1985, and the Arab States seem to be moving toward final contract decisions. At the same time the U.S. Agency for International Development has launched an ambitious program to demonstrate the usefulness of satellites for rural development, but results are not yet available.

The question to be asked at this point is not whether satellites can be a cost-effective substitute for terrestrial systems or whether they *can* serve the needs of the rural majorities. Rather the question is whether governments will be able to use them for this population at costs that are competitve with other forms of communication already available. The major drawback is the centralized nature of such high cost technology. Since each country is distinct and has a different set of priorities and a different development history, we will have to wait for empirical results. There has been relatively little published on the Indonesian experience, but what is known suggests that it is not the hardware but the means for its social organization that may be lacking to make it work for poor majorities.

Information technologies. The title of a recent conference in Paris, was the "Barefoot Micro Chip" and it seemed to promise all of the marvelous benefits of the home computer "revolution" in the U.S. to the villages of India or the Andean highlands. It is not that information is not useful, even crucial, for many rural poor people. But the implication that a

home computer in every farm house in the Third World will be the answer to what are both political and social problems of long standing is a disturbing continuation of technocratic ideology.

Agricultural research centers in a number of countries can benefit from on-line information via computers, and telephones can clearly serve rural needs (Hudson, 1982), but the assumptions of other favorable conditions for change are critical. More needs to be done concerning the provision of cheap and reliable two-way communication because of the savings in travel alone, but until we have more catalogued experiences and know more about implementation, many of the proposed benefits will remain unfulfilled.

Radio. Radio remains the oldest of the broadcast technologies and one of the cheapest. It also is the most widely distributed means of communication among rural populations in the Third World. The only comment that needs to be made at this point is that radio and other small and relatively cheap technologies (the rural press, perhaps a telephone, and, someday, a microprocessor) are the means most likely to be used by people mobilizing themselves, as instruments under their control and geared toward their own change. There is already sufficient evidence that small radio stations can serve rural people (ALER, 1982; Jamison & McAnany, 1978; Hall, 1978; McAnany, 1973). What may still be lacking are modest amounts of aid for hardware and training for those local groups that already know what they want and are looking for the means by which to mobilize others.

Technologies remain two-edged swords and can either be instruments of liberation or pacification. Their application depends, to a great extent, on the context in which they are used and on the basic development model informing that use. We turn now to a final question on new and old paradigms in practice.

NEW PARADIGMS AND NEW PRACTICES IN THE 1980s

I began this paper with a quote, written in the mid 1970s stating that the old paradigm had "passed," but it was not entirely clear what new paradigm would take its place. As we detailed what some have called the research paradigm complex, the elements that might compose a new paradigm were outlined. The danger for development practice is that we will mistake the consensus of academics for the prevailing situation of the real world and the existing obstacles to social change. It is clear that proclaiming development to be "a widely participatory process of social change... to bring about both social and material advancement...for the majority of the people through gaining greater control over their environment" (Rogers, 1976) would be readily accepted as an ideal by many academics. Yet when such efforts are implemented in a place like Central America, they are complicated by real world realities and sharp political conflicts.

There are several conclusions that we might tentatively make about paradigms and practices at this point. Whatever we want to call the new development paradigm, one dimension of it that *must* be included is something that the dependency writers introduced almost two decades ago: Third World economies, and the most vulnerable sectors of those economies in rural areas, are affected by the structures of the international economic systems. It is not just dependency thinkers who recognize this but the neoclassical economists at places like the World Bank.

The secondary conclusion that follows from this is one raised by Esteva (1983), and it is that international market forces in agriculture affect policies that have an impact on even the small farmers of countries like Mexico. Policy decisions about what is more cost-effective to produce or import have implications that directly affect basic survival questions for peasants--questions regarding food, security, and even land tenancy. The international market forces that push for exports and concentration of land ownership to provide more efficiency in export also affect the explosive issue of land reform in a number of countries.

The second set of conclusions about communications in development also touch on the issues raised by dependency. The overriding importance of context and social structure was raised by Felstehausen (1973) in discussing development communication and was empirically tested by Grunig (1971), O'Sullivan (1980), and Contreras (1980). The context and, specifically, the role of social structure in a given situation will be a necessary consideration in any communications planning in the coming decade.

Finally, there is an issue of values in the paradigm of the 1980s. The word "value" retains a negative connotation in the context of social science or of development planning. This is a bias that is primarily found in the U.S. (Halloran, 1981) but is shared by some others in international lending institutions (where economists seem to predominate). Certain values have always been implicit in the

theories of development thinkers in the past three decades, but it has only been in the conflictive decade of the 1970s with the new order debates and OPEC that the place of values in development thinking has come out of the closet.

The new paradigm guiding communication *in* and *for* development must include a clarification of *development for whom*, otherwise it leaves out the basis for making decisions in practice. If technology, whether it be communication technology or agricultural innovation, is to provide benefits, we must ask for whom these benefits are to be provided. Clearly the Green Revolution did benefit many people, but just as clearly it did not benefit all--or even the majority. The inclusion of value positions in a new paradigm will not only clarify how the paradigm operates but also what practical choices it dictates.

The conclusion of this paper is not that all people should accept the paradigm as I have outlined it, be they academics or practitioners. Rather, it is based on the recognition among those who are working toward genuine change (which policies in rural development should imply) that structural problems and their political consequences are the primary obstacles to change. If we are committed to explaining the phenomenon of underdevelopment, as well as to changing it, we need to go beyond modernization and diffusion and even dependency. It is no easy struggle to promote change, and no immediate prospects for change are obvious for the rural majorities of most countries. If the aim is to understand the situation, though, then the 1980's may be the beginning for change that will benefit the rural majorities before the twenty-first century is upon us.

REFERENCES

AED (Academy for Educational Development). *The basic village education project, Guatemala: Final report*. Washington, D.C.: Author, 1978.

Aggarwala, N. A new journalism, *Intermedia*, 1980, *1*.

ALER (Associacion Latino Americana de Escuelas Radiofonicas). E. Contreras and R. de Dios *Analisis de los sistemas de educacion radiofonica*. Quito, Ecuador: ALER, 1982.

Alker, H. & Hurwitz, R. *Resolving prisoner's dilemmas*. Washington, D.C.: American Political Science Association, 1980.

Attwood, R. & Mattos, S. Mass media reform and social change: The Peruvian experience. *Journal of Communication*, 1982, 32, 2.

Beltran, L.R. Rural development and social communication: Relationships and strategies. In *Communication strategies for rural development: Proceedings of the Cornell-CIAT International Symposium*. Ithaca, N.Y.: Cornell University Press, 1974.

Beltran, L.R. Social structure and rural development communcation in Latin America: The "Radiophonic Schools" of Colombia: In Chu, et al. (Eds.), *Communication for group transformation in development*. Honolulu: East-West Communication Institute, 1976a.

Beltran, L.R. Alien premises, objects, methods in Latin American communication research. *Communication Research*, 1976b 3, no. 2.

Beltran, L.R. & Fox, E. Latin America and the United States: Flaws in the free flow of information. In Nordentreng & Schiller (Eds.), *op. cit.*, 1979.

Bordenave, J. Diaz. Communication of agricultural innovations in Latin America: The need for new models. *Communication Research*, 1976, 3, no. 2.

Cardoso, F. The originality of the copy: The economic commission for Latin America and the idea of development. In Hill (Eds.), *op. cit.*

Cardoso, F. & Faletto, E. *Dependencia e desenvolvimento na America Latina*. Rio de Janeiro: Ed. Zahar., 1969.

Contreras, E. Brazil and Guatemala: Communications, rural modernity, and structural constraints. In McAnany (Ed.), *op. cit.*, 1980.

Cooke, T. & Romweber, S. *Radio advertising techniques and nutrition education: A summary of a field experiment in the Philippines and Nicaragua*. New York: Manoff International, 1977.

Encanto, G. Development journalism in the Philippines. In Atwood et al. (Eds.), *International perspective on news*. Carbondale, Illinois: Southern Illinois University Press, 1982.

Esteva, G. Food self-reliance and peasant self-management: Bases for the agrarian transformation of Mexico. Mimeo, Institute of Latin American Studies, University of Texas at Austin, 1983.

Felstehausen, H. Conceptural limits of development communication theory. *Rural Sociology*, 1973, 38.

Freire, P. *Pedagogy of the oppressed*. New York: Herder and Herder, 1970.

Golding, P. Media role in national development: Critique of a theoretical orthodoxy. *Journal of Communication*, 1974, 24, 1.

Goiulet, D. *The uncertain promise: value conflicts in technology transfer*. New York: IDOC/North America, 1977.

Grunig, J. Information and decision making in economic development. *Journalism Quarterly*, 1969, 46.

Grunig, J. Communication and economic decision making of Colombian peasants. *Economic development and cultural change*, 1971, 18.

Gutierrez, G. *A theology of liberation: history, politics and salvation*. New York: Orbis, 1973.

Hall, B. *Mtu ni afya: Tanzania's health campaign*. Washington, D.C.: Academy for Educational Development, 1978.

Hall, P. What's all the fuss about interpress? *Columbia Journalism Review*, 1983, January-February.

Halloran, J. The context of mass communication research. In McAnany, Schnitman & Janus (Eds.), *Communication and social structure: Critical studies in mass media research*. New York: Praeger Publishers, 1981.

Hill, K. (Eds.). *Toward a new strategy for development*. New York: Pergamon, 1979.

Hornik, R. Communication as complement in development, *Journal of Communication*, 1980, 30, 2.

Hornik, R. *Communication and agriculture*. Stanford: Institute for Communication Research, Stanford University, 1982. (Also Annenberg School of Communication, University of Pennsylvania).

Hudson, H. Toward a model for predicting development benefits from telecommunication investment. In Jussawalla & Lamberton (Eds.), *Communication economics and development* New York: Pergamon, 1982.

Inkles A. & Smith, D. *Becoming modern: Individual change in six developing countries*. Cambridge: Harvard University Press, 1974.

International Development Association. *IDA in retrospect: The first two decades of the international development association*. New York: Oxford University Press (for the World Bank), 1982.

Jamison D. & McAnany, E. *Radio for Education and development*. Beverly Hills, California: Sage Publications, 1978.

Jouet, J. Participatory communication in the Third World: A critical outlook. Paper presented in the First Seminar on Participatory Communication, CIESPAL, Quito, Ecuador, 1980.

Lazarus, W. Private communiation with author, 1982.

Lee, C. *Media imperialism reconsidered: The homogenizing of television culture*. Beverly Hills, California: Sage Publications, 1980.

Lenglet, F. The Ivory Coast: Who benefits from education/information in rural television? In McAnany, (Ed.), *op. cit.*, 1980.

Lent, J. The evolution of development communication: A brief history. In Lent & Vilanilan (Eds.), *The use of development news*. Singapore: AMIC Asian Mass Communication Research and Information Center, 1979.

Lernoux, P. *Cry of the people*. New York: Doubleday & Company, 1980.

Lerner, D. *The passing of traditional society: Modernizing the middle east*. New York: Basic Books, 1958.

Mahan, E. Computers and development: Online bibliographic retrieval systems. Paper presented at Western Social Science Association, San Diego, California, 1981.

Mattelart, A. *Agresion Desde el espacio: Cultura y nepalm en la era de los satelites*. Buenos Aires: Siglo Veintiuno, 1973.

Mattelart, A. Hacia de formacion de los aparatos ideologicos del "estado multinacional," *Communicacion y Cultura*, 1975, 4.

Mattos, S. Domestic and foreign advertising in television and mass media growth: A case study of Brazil. Unpublished doctoral dissertation, University of Texas at Austin, 1982.

McAnany, E. *Radio's role in development: Five strategies of use*. Washington, D.C.:. Academy for Educational Development, 1973

_____ (Ed.) *Communications in the rural Third World: The role of information in development*. New York: Praeger Publishers, 1980.

_____ The logic of cultural industries in Latin America: The television industry in Brazil. In Mosco & Wasko (Eds.), *Critical Communication Review*, vol. 2. Norwood, New Jersey: Ablex, 1984.

McAnany, E., Oliveira, J.B., Orivel, F. & Stone, J. Distance education: Evaluating new approaches in education for developing countries, *Evaluation in Education: International Progress*, 1983, 6, 3.

McAnany, E., Schnitman, J., & Janus, N. *Communication and social structure: Critical studies in mass media research*. New York: Praeger, 1981.

Nordenstreng, K. & Schiller, H. (Eds.), *National sovereignty and international communication*. Norwood, New Jersey: Ablex, 1979.

Nordenstreng, K. & Varis, T. *Television traffic -- a one-way street?* Paris: UNESCO, Reports and Papers on Mass Communication, #70, 1974.

O'Sullivan, J. Guatemala: marginality and information in rural development in the western highlands. In McAnany (Ed.), *op. cit.*, 1980.

O'Sullivan, J. & Kaplun, M. *Communications methods to promote grass-roots participation: A summary of research findings from Latin America*. Paris: UNESCO, Communication and Society, #6, 1980.

Rada, J. The microelectronics revolution: Implications for the Third World. *Development Dialogue*, 1981, 2.

Reyes Matta, F. A model for democratic communication. *Development Dialogue*, 1981, 2.

Rogers, E. *Diffusion of innovations*. New York: Basic Books, 1962.

Rogers, E. & Shoemaker F. *The Communication of Innovations*. New York: Basic Books, 1971.

Rogers, E. Communication and development: The passing of the dominant paradigm. *Communication Research*, 1976, 3, *2*.

Rogers, E. *The diffusion of innovations* (Third Edition) New York: Basic Books, 1983.

Rostow, W. *The stages of economic growth*. Cambridge University Press, 1960.

Salinas, R. & Paldan E. Culture in the process of dependent development: Theoretical perspectives. In Nordenstreng and Schiller (Eds.), *op. cit., 1979*.

Sarti, I. Communications and cultural dependency: A misconception. In McAnany, et al (Eds.), *op. cit.*, 1981.

Seers, D. Introduction: The congruence of Marxism and other neoclassical doctrines. In Hill (Eds.), *op. cit.*

Schiller, D. *Telematics and government*. Norwood, New Jersey: Ablex Publishers, 1982.

Schiller, H. *Who knows? Information in the Age of the Fortune 500*. Norwood, New Jersey: Ablex Publishers, 1981.

Shore, L. Mass media for development: A reexamination of access, exposure, and impact. In McAnany (Ed.), *op. cit.*, 1980.

Sivard, R. *World military and social expenditure, 1981*. Leesburg, Virginia: World Priorities, 1981.

Somovia, J. The democratization of communications: From minority social monopoly to majority social representation. *Development Dialogue*, 1981, *2*.

Stanford University, Institute for Communication Research. *The mass media and health practices evaluation in Honduras: Findings from the first year*. Palo Alto: Stanford University, Feb. 1983.

Streeten, P. Development ideas in historical perspective. In Hill (Ed.), *op. cit.*, 1979.

Tulchin, J. Emerging patterns of research in the study of Latin America. *Latin American Research Review*, 1983, 18, *1*.

UNESCO. *Many voices, one world: Communications and society today and tomorrow*. New York: Unipub (MacBride Commission Report), 1980.

White, R. Mass communication and the popular promotion strategy of rural development in Honduras. In Spain, Jamison & McAnany (Eds.), *Radio for education and development: Case studies*. Washington, D.C.: World Bank, Working Paper, 266, 2 volume, 1977.

World Bank, *World development report, 1982*. New York: Oxford University Press (for the World Bank), 1982.

Response to Keynote Address

THOMAS GUBACK

Dr. McAnany's paper--which is the basis of my remarks--reflects not only a substantial command of the literature, but also an appreciation and understanding that is essential for placing this body of knowledge in context. He has presented a strong paper that situates quite clearly the problems we are facing. In some respects, the paper is also uncomfortably accurate. It has given me, at least, cause to wonder where we have been, and where we are going. Those are the questions traditionally asked when we want to take stock. Fortunately, I don't have to answer them--at least today.

My colleague, Professor Evans, will undoubtedly deal with many specific features of Professor McAnany's presentation, so I will turn my attention to what I feel are some of the broader issues and considerations that flow from the analysis his paper provides. It would be much easier to do this if Professor McAnany had said something I could disagree with. I think any points of difference we might have are merely matters of stress and emphasis, rather than of substance.

Professor McAnany notes that there has been a shift, during the last decade, in thinking about development, and that new--or at least, different--conceptions have been offered. It seems, in this respect, that work on development has paralleled work in communications research--and if we cast the net even more widely, we can see that many of the other social sciences have also shifted course to some degree. Whether one wants to say they have shifted OFF course, or ON course, is a question of value that I will not debate at this moment.

The significant point is that thinking has changed considerably. Perhaps it would be more accurate to say that new perspectives have come to the fore, and they offer a genuine alternative to those that have dominated our attention for too long. There are many specific reasons why this change has come about. At the foundation, though, is the recognition that the older paradigms or conceptions simply have not been able to come to grips with basic structural problems that confront developing--and developed--societies. In communications research, at least, the last dozen or fifteen years have seen the rise of a perspective that goes under various names: critical, materialist, or political-economic. It has had an impact on development studies, as we have seen.

Let me point out in passing that the "free flow of information" concept is one of those that has been seriously challenged--and in some cases exposed--for its obvious ethnocentric biases. The doctrine took official position in America's foreign policy in the early 1940s. While it seems to be one of those slogans that no rational--or western--person could ever deny, it was advanced from a position of self-interest that was often camouflaged by a lot of rhetoric. But let's be clear about it: in our society, information is not some neutral, disinterested thing that has only use value. When suppliers talk about information, they are talking about a commodity they want to sell. And it is not just information, but entertainment, and ultimately entire value systems.

In this regard, "free flow of information" was not some altruistic concept drawn from a romanticized version of Jeffersonian democracy. To the contrary, it was a commercial doctrine that was part-and-parcel of the movement for liberalized trade--a movement inaugurated in the 1930s by economic and political elites who wanted to avoid another cataclysmic crisis.

But selling culture on a global scale obviously has greater social significance than selling raw materials or consumer goods. This realization actually preceded all the debate about the New International Information Order. Indeed, it goes back at least to the 1920s, when other industrialized, capitalist countries started to protect themselves against the flood of American movies. In the last 25 years, though, the issues have been sharpened, especially

Thomas Guback: Professor of Communications Research, Institute of Communications Research, University of Illinois at Urbana-Champaign.

by the Third World, which wants to redress not only the one-way flow of communication, but also the obvious economic and political imhalances of which communication is both cause and effect.

In the face of massive evidence, it is no wonder that our paradigms have had to change--and that North American researchers have found their old models somewhat tarnished.

In this way, I think it becomes somewhat less difficult to deal with--or to understand, at least--the contrast between the triumph of theory and the failure of practice. It also is less difficult to come to terms with the charge that certain theoretical approaches are good at diagnosis but not so good at prescription. In one respect, though, this is an unanswerable charge, because the theorists who demand prescription are actually demanding a blueprint. Now generalized blueprints imposed from the outside may be quite out of keeping with the specific conditions of given countries and cultural groups. Beyond that, such blueprints seriously violate democratic principles, which need to operate from the bottom up. To say this another way, we can better understand the dilemma about the triumph of theory and the failure of practice by asking in whose interest is it that fundamental change is obstructed and retarded? Who benefits from maintaining the status quo?

Professor McAnany points out in his paper that a relevant question is "whether a highly modern information sector in a Third World economy can directly or indirectly contribute to the well being of the rural poor?" It seems that everywhere we turn these days, just about the same question--or assumption--tops the list of headlines. And this is true, I might add, even in developed countries, where poverty and unemployment refuse to go away. This perspective is grounded in the belief that social prob-lems can be solved, or attenuated, by the application of equipment and machines--without also making basic social changes.

This view also has a variant we often hear in communications, one which seems to permeate the MacBride Commission Report for UNESCO. That is, the problems in communication--locally, regionally, nationally, internationally, and especially as they confront the Third World--can be solved by establishment of a communications infrastructure, such as printing plants, broadcasting stations, and film making equipment. The United States has been one of the chief exponents of this point of view. Of course technology and science are not neutral: neither is the way in which they are used.

As Professor McAnany suggests, though, what we have to begin thinking about first is democratization--because democratization has to precede any effective selection and use of technology--and especially of communications technology. All too often, our attention is deflected from the real issues of power and privilege by the glamour of high-tech, and by the glowing prophecies of its benefits. We need to remind ourselves that the innovation of every new delivery system--from movies, radio, and TV, to cable, and Direct Broadcast Satellite--has always been accompanied by promises of a rich diet. But this often masks the identities of the forces and logic that really govern what happens. Democratization, then, needs to be seen in both its political and economic dimensions.

There is indeed an issue of values confronting us, as Professor McAnany has said. We can no longer afford to pretend that social science is neutral and impartial--and that merely stripping away layers of the onion uncovers an objective body of facts. It is true that too many development models have simply assumed the legitimacy and necessity of the western pattern.

Professor McAnany put it clearly in his paper: "We need to go beyond modernization and diffusion," and I agree.

Response to Keynote Address

JAMES F. EVANS

Emile McAnany's thoughts are interesting and useful to me, as one who is oriented especially to communications in agricultural and rural development.

They prompt me to think about how communications researchers in the United States began with relatively simple, engineering-inspired models of communication--and are spending decades learning about the inadequacies of those models, and the complexities of human communication.

The major elements remain familiar: sources, channels, messages, receivers, and so on. But, regarding agricultural and rural development, we are learning that:

- The sources often are urban-oriented.
- The channels of mass communications often are not easily accessible to rural people.
- Messages often are, as one observer put it, "frivolous, irrelevant, and even negative for rural development."
- Development-related rural innovations often are inadequate and poorly adapted.
- Rural audiences (and receivers in general) are not as inert and passive as once supposed. It is more accurate to view them as active seekers and processers of information.
- Additionally, individual receivers of communications are parts of complex social systems that influence their decisions, and lives, moment-to-moment.
- Receivers of development communications often lack power, organization, and economic means that would permit them to enter fully into the development process to their benefit.
- The environment for development communications sometimes features restrictive or oppressive social structures, poor policies, and inept or poorly-coordinated development activities.

So at this point we are encouraged to conceive a more interactive model. In this model, communication supports development as a participatory process that brings social and material benefits to the majority of the people by helping them exercise greater control over their environment and by involving them actively in the process of social change.

Those criteria parallel several lessons learned by Douglas Ensminger (1974, pp. 11-12) from his 25 years of rural development experience in India and elsewhere.

1. The people who expect to benefit from development must be involved in development.
2. The two basic agricultural production resources--land and water--must be made more equally available to all the people.
3. National program leadership for rural development must accept a political orientation to rural development.

We note that Professor McAnany emphasizes other important dimensions for a paradigm of development appropriate to the 1980s.

He underscores the impact of the international economic system on Third World economies, including the impact of international market forces in agriculture.

He emphasizes the need to address the question of "development for whom"--the issue of values.

And to these noteworthy "real-world realities" I might add a few others that must be taken into account as we pursue agricultural and rural development.

1. Development communicators will need to define participation and mobilization more clearly than they have so far. Participation can range broadly, from rubber-stamp advisory functions to situations of hands-on control by those toward whom development programs are directed. Professor McAnany cites three examples of effective mobilization, including grassroots participation and control. Another example comes to mind, involving the Cooperative Extension

James F. Evans: Professor of Agricultural Communications, Office of Agricultural Communications, University of Illinois at Urbana-Champaign.

Service in our own country. In my opinion, one of the most important features of the Extension Service lies in its funding system, a cooperative arrangement using combinations of national, state, and local funds. In Illinois, for instance, about 14% of the funds come from local sources. So the clients of Extension are involved in setting program priorities, and even in making decisions for hiring and firing county Extension personnel. The balance between top-down and bottom-up programming is not always ideal or maintained without friction, but I think the system benefits from some financial control at the local level.

2. A second reality is that some agricultural development systems are investing relatively little in communications support. A 1982 doctoral study by S. Gowdar illustrates this point: his results showed that 151 agricultural research and education organizations in 9 Asian countries were allocating an average of only 1 to 3% of their organizational budgets to information services. More aggressive communications support for development will require higher levels of funding.

3. A major education job lies ahead: the job of educating professional communicators who can take part effectively in development. Results of an August, 1982, workshop in Los Banos, Philippines, emphasized this reality (Bueno & Frio, p. iv). Participants at this workshop represented development organizations, research organizations, and teaching institutions in six countries of Southeast Asia. They met to analyze the current communications support for disseminating agricultural research and carrying out rural development programs. The dominant problem identified by the 44 workshop participants was the lack of qualified communicators.

In the broader Asian study conducted by Gowdar (1982, p. 95), 90% of the respondents indicated the lack of adequately trained staff as a major problem area constraining their organization's information programs.

4. The role of professional communicators in development continues to be increasingly controversial. Should these professionals serve essentially as independent journalists, covering development activities? Or should they be advocates and instruments of the development policies of the day? Or should they function somewhere between these ends of the spectrum?

We might help resolve this dilemma by redefining the communicator's role within the development organization. What if we envision a professional communicator who can, and will, do more than plan communications strategies, produce communications materials, and carry out communications programs? What if the communicator also has the mandate--and the skills--to be an active listener for the development organization? This will mean continuous monitoring of actions and views of farmers and other clientele. It will mean feeding results back into the development organization. It will mean giving clientele a stronger voice in goals, plans and operations of the organization.

Such a role is ambitious and difficult, but it seems vital for effective communications for development.

5. Finally, we need more research on many fronts. I would point, in particular, to a need for research about the economics of information in agricultural and rural development. We are seeing some encouraging results from scattered studies, but the economic aspects need to be examined and documented more fully and rigorously.

We also await further contributions from linguists and other colleagues whose efforts may deal with the huge language difficulties that currently challenge development communications in many of our most populous nations.

As we learn more about these and other aspects of communicating, we will move more powerfully and effectively toward real progress in development.

REFERENCES

Bueno, P.B., & Frio, A.S. (Eds.). *Development support communication for rural development*. Los Banos, Philippines: Southeast Asian Regional Center for Graduate Study and Research in Agriculture, 1982.

Diaz Bordenave, J. Communication and adoption of agricultural innovations in Latin America. In R.H. Crawford (Ed.), *Communication Strategies for rural development*. Ithaca, New York: Cornell University, 1974.

Ensminger, D. Rural Development, what is it? In R.L. Webster (Ed.), *Integrated communication: Bringing people and rural development together*. Honolulu, Hawaii: East-West Communication Institute, 1974.

Gowdar, S. Information service functions and training needs of agricultural research and education organizations in Asia. Doctoral dissertation, University of the Philippines at Los Banos, 1982.

The Effects of the Caribbean News Agency on the Regional Flow of News: A Content Analysis of the Barbados *ADVOCATE-NEWS* and the Jamaica *DAILY GLEANER*

CRISTIN D. MERCK

The developing world's dissatisfaction with the international flow of news, and desire for its reform, have been heard for some years now. The call for a "New World Information Order" has brought many diverse countries together to voice common concerns. "The widening of the capacity to inform must be viewed as an essential component of attempts to create a new international economic order; as such, the monopolistic and discriminatory practices inherent in current international information dissemination must be deemed as one of the worst, though subtle characteristics of the present system...that there is a need for reform is obvious" (Tinbergen, 1975, pp. 99-100).

One way in which nations and regions have sought to bring about a more free and equal flow of information is through the establishment of news agencies. This paper discusses the impact one of these agencies--the Caribbean News Agency (CANA)--has had upon regional news.

Consistent with the goals of the agency itself, the primary objectives of my study were to determine, through content analysis of two regional daily newspapers, whether the Caribbean News Agency is: (1) increasing the flow of Caribbean news within the region, and (2) putting a Caribbean perspective on world news. (A third hypothesis, based on CANA's objective of focusing on "positive" regional news, was also analyzed, but proved problematic. Therefore, it is reported in Appendix A rather than in the body of the text.)

I conducted a content analysis of two major newspapers of the region--the Jamaica *Daily Gleaner* and the Barbados *Advocate-News*. Newspaper content in 1972 and 1973 issues was measured to determine the media situation that precipitated CANA's establishment. Then, after CANA's establishment, the 1978 and 1979 issues of the two papers were sampled.

I also interviewed news agency and media representatives for their opinions on whether CANA was meeting these goals, becoming a viable source of news, and functioning independently of political and outside pressures.

Like other areas of the developing world, the Caribbean--through a history of colonialism and a lack of finances and technical skills--has had to choose between isolation and reliance on the world news agencies--Associated Press (AP), United Press International (UPI), and Reuters, in particular (Matta, 1979).

The region's communications have been further complicated by the influence of the American and British ways of life; the predominance of communications channels between the islands and London and New York, rather than between the islands themselves; and by the ownership of the regional media by governments, political parties, and foreigners (Lent, 1977, p. 17).

According to the Caribbean Regional Secretariat:

> Many of the problems of the region have been, in the main, due to mutual ignorance and misunderstanding among countries resulting from a lack of intraregional communications...The role of the mass media in promoting regional cooperation and regional economic and social development cannot be stressed too much...For in the process of social and economic transformation of a country or a region, one of the most important aspects is the image of the world and of himself which the ordinary citizen derives from the media (Cuthbert, 1979, p. 10).

UNESCO found that the world agencies, Reuters in particular, were responsible for the news flow into, out of, and within the Caribbean (Koppa & Clarke, 1969). United Press International and Associated Press retained stringers in the region, and Reuters (as of 1968) staffed a regional desk in Barbados.

Media ownership in the region is a mixture of private and public, foreign and local, with government and foreign interests predominating--especially in radio and television (Lent, 1977).

Cristin D. Merck: Graduate Student, Agricultural Journalism, University of Wisconsin-Madison.

The involvement and relationship of these various media groups were central to discussions concerning the proposed Caribbean News Agency.

With outside or government inputs, how could an agency remain editorially independent and objective? But without these inputs, how could an agency ensure itself of the technical and financial support it needed?

THE CARIBBEAN NEWS AGENCY

The initial call for a Caribbean news agency came in 1967 from the fourth Heads of Government Conference of the Commonwealth Caribbean, which requested that UNESCO do a feasibility study the following year. However, the agency development plans were stalemated for several years due to mutual suspicions among the regional governments themselves, and by massive skepticism from the privately-owned media over government involvement in the agency.

After nine years of controversial negotiations concerning government participation, the Caribbean News Agency was established in January 1976, in Barbados. Except for the Jamaica *Daily Gleaner*, all the regional media had accepted UNESCO's recommendations for the agency.

The CANA Memorandum and Articles of Association stated the objectives of providing "an efficient and independent news service" that offers a "fair, comprehensive, accurate, and impartial report of events and developments in the Caribbean and elsewhere...with special reference to public interest in the Caribbean" (Caribbean News Agency, 1976, p. 1).

To fulfill these purposes and skirt the characteristic Third World dependence on governments, CANA devised its own unique policies of ownership and control (Cuthbert, 1979). Because only about half of the media were privately-owned, they couldn't afford to support a news agency without the cooperation of the government-related media. Therefore, CANA was established with most of the publicly-owned media as subscribers. These subscribers were unable to own shares in CANA or to appoint members to the Board of Directors. Only public media which had been original members of the Caribbean Publishers and Broadcasters Association and had been part of the association's block contract with Reuters could become shareholders.

Thus, government pressure was minimized because the private media retained 54 percent of the shares, while the public media held the balance. Further, government manipulation was unlikely because the public media represented several politically diverse nations. The issue of government involvement in CANA had not been one of censorship, but rather one of political pressure, which CANA's ownership mechanism was able to minimize (Cuthbert, 1979). Because CANA was established as a Barbadian corporation, one potential area of government pressure remained. The Barbadian government could *potentially* withhold work permits from outside personnel, thus limiting the true regionality of the agency.

CANA started its service with eleven shareholders and five subscribers in seven Commonwealth Caribbean nations. In its first year of operation, CANA provided a reliable service of 20,000 words a day, including 15,000 words of world news from the Reuters wire (which remained the base for CANA's world news) and 5,000 words of Caribbean news (Lent, 1977).

RESEARCH METHODS AND DESCRIPTION OF SAMPLE

The newspapers sampled for the content analysis, the Jamaica *Daily Gleaner* and the Barbados *Advocate-News*, represent two of the region's major dailies. They were selected for their "conservative" tradition, compared to the tabloids of the region. I felt that if CANA copy were used by these papers, it would be indicative of a higher degree of acceptance than with the tabloids.

Each paper was sampled before CANA's inception for four weeks in 1972 and then in 1973, and after CANA for four weeks in 1978 and then in 1979. These particular years were chosen to give a few years' buffer against possible effects of being close to CANA's 1976 starting date. Both papers were sampled:

1972	1973	1978	1979
Feb. 14-20	Feb. 12-18	Feb. 13-19	Feb. 12-18
May 15-21	May 14-20	May 15-21	May 14-20
Aug. 14-20	Aug. 13-19	Aug. 14-20	Aug. 13-19
Nov. 13-18	Nov. 12-18	Nov. 13-19	Nov. 12-18

These sample dates were chosen by dividing the year into four seasons and then selecting the middle week of each season. I divided the year in this manner to guard against the influence of seasonal news--for example, in agricultural production or tourism.

All papers were received with some difficulty on microfilm. The total sample size for the Barbados paper was 110 issues (55 each before and after), and for the Jamaica paper was 73 issues (55 before and 18 after).

Because of the problem of measuring by column inch from microfilm, the content analysis was conducted by counting the number of individual news items, without regard for their length. All newspaper items were counted, except for horoscopes, comics, bridge columns and advertising. Of the total number of news items, the stores were categorized as to whether they had a Caribbean or non-Caribbean dateline.

News items that originated in the Caribbean are referred to as "regional" in my analysis of the first hypothesis.

News items that originated in the Caribbean are referred to as "regional" in my analysis of the first hypothesis.

News items that had a non-Caribbean source are categorized as to whether they mentioned the Caribbean or not. For the purpose of analysis of the second hypothesis, I define "Caribbean perspective" as whether a particular Caribbean nation or the region as a whole is mentioned in news stories with a non-Caribbean source.

Total News		
Caribbean	Non-Caribbean	
Originated in Caribbean	Mentions Caribbean	Doesn't Mention Caribbean

For example, a non-Caribbean item that mentions the Caribbean might be a report from Great Britain on a cricket match in which one of the teams was Caribbean, or a story on the social and economic problems of West Indians living in London. Both stories have a non-Caribbean dateline but mention the region. A non-Caribbean story that doesn't mention the Caribbean might be a report of U.S. President Carter's news conference on the U.S. economy in Washington, D.C.

In the "before" sample, the news sources were: Reuters, newspaper staff, and other news agency (such as AP, UPI, or Gemini). In the "after" sample, the sources were: CANA, CANA/Reuters, newspaper staff, and other news agency. The CANA designation indicates that the story originated with a Caribbean News Agency reporter. The CANA/Reuters designation indicates that the story was received over from the Reuters wire and was distributed--and possibly reworked--by CANA.

FINDINGS

Differences between papers and times for the various content categories were tested with stand t-tests for independent samples. The following conclusions pertinent to the stated objectives emerged:

Hypothesis One: CANA Increases the Flow of Caribbean News Within the Region

The Caribbean News Agency appears to have increased the use of regional news items in the two papers. The percentage of regional news items in both papers increased significantly during the two periods from 64% before CANA to 72% after CANA (t=-6.87) for the combined sample (Table 1). Individually, each newspaper also increased significantly in this respect, however a format change in the *Gleaner* kept it from being immediately apparent.

Although CANA has increased the *percentage* of regional news items carried in both papers, in the Barbados paper the *absolute number* of regional items rose significantly (t=-2.48), while the Jamaica paper's dropped significantly (t=2.77).

My immediate reaction to this finding was that the *Gleaner*, which had been so skeptical of CANA, was simply not using the agency's copy. But I found that the paper was using as large a share of news items from CANA after, as it had from Reuters before (t=.60). Further, the *Gleaner's* use of regional copy from its own staff and from other agencies had dropped significantly also (t=2.83) and (t=3.74), respectively.

The drop in average number of regional items used by the *Gleaner* was explained by editor J.C. Proute of the Gleaner Company who said that after the breakdown of the West Indies Federation, the Gleaner Company (as well as Jamaica) had become more insular, with little involvement in regional news and issues (1980). In addition, he said that while the Gleaner had previously carried more regional news items than it currently does, a format change with a drop in total pages had put constraints on the amount of space available for regional news. Proute felt that CANA was carrying more regional news than Reuters had, but that the Gleaner Company simply wasn't using it in its papers. However, the actual count of items before and after CANA's establishment shows a greater reduction in nonregional items than in regional items as a result of the changed format.

While this explains the reduced average number of regional news items in the *Gleaner*, I wondered if other factors didn't also affect the different trends in papers. For example, because CANA is headquartered in Barbados, it may be possible that more of the local and regional news that is covered by CANA is of importance to

the Barbados paper. However, CANA's chief editor Trevor Simpson said that the agency doesn't carry a disproportionate number of Barbadian news items, and may even carry fewer items about Barbados than about other countries, simply because the Barbados (political and economic) "climate" is stable and generates few news items (1980).

I also think that it should be considered that the CANA news transmissions are received by the Barbados paper in a more timely manner, making them more useful to that paper than to the *Gleaner* a thousand miles away. Proute (1980) of the *Gleaner* commented that CANA often failed to move stories fast enough. And in an unpublished study at the University of the West Indies at Mona, Jamaica, a number of the regional media complained that CANA's reports were often received after their press deadlines (McIntosh, 1977).

Ulric Rise, Sunday editor of the Barbados *Advocate-News* felt that CANA was increasing the flow of regional news, and that CANA's local reporters had a better grasp of the region than Reuters' expatriates (1980). However, he was disappointed with the lack of coverage of the small islands' news, and CANA's emphasis on the news of Jamaica, Trinidad and Tobago, Guyana and Barbados.

So, although the individual papers behaved differently in terms of average items of regional news per issue, the overall percentage of regional news items in both papers increased significantly, substantiating hypothesis one.

Hypothesis Two: CANA is Putting a Caribbean Perspective on World News.

It appears from the data that CANA had a minimal effect in putting a Caribbean perspective on nonregional news. According to Trevor Simpson (1980) of CANA, the agency was not doing much in this respect unless the news had a direct effect on the region. Although CANA maintains stringers in London, New York, Washington, and Toronto, non-Caribbean stories from CANA accounted for only eleven news items during the sample period and cannot be considered a major source of world news items.

With both papers combined and Reuters as the source, the non-regional news items with a Caribbean perspective increased, but not significantly ($t=-.84$). Similarly, staff-written non-Caribbean news items also showed no significant increases ($t=-.25$). While non-Caribbean news items from other agencies dropped significantly ($t=9.57$).

With Reuters now as the major source of world news items within the region, these findings show that the newspapers are dependent upon CANA/Reuters for distribution of non-Caribbean news items. This was substantiated by Rice (1980) of the *Advocate-News* who considered UPI's service inadequate and too expensive. However, he continued the service to receive the features and U.S. stock reports and mail photo services. J.C. Proute (1980) of the Gleaner Company stated that the increased cost of AP's service had caused them to drop the agency and primarily rely on CANA/Reuters for world news.

Both newspaper editors felt that CANA had been able to remain unbiased and free of political or outside influence. Specifically, J.C. Proute (1980) said that his paper had been afraid of governments' influencing the news content. But he says that CANA is being accepted as a reliable regional source of news, and that "short of financial failure, CANA should continue on the same road.

Ulric Rice (1980) of the *Advocate-News* felt that in order for CANA to get information from the governments, it must at least be sympathetic to governments. But he also said that his paper tried to take a middle-of-the-road stance or to lean slightly towards government.

Proute (1980) did comment that he thought the Barbadian work permit restrictions limited the agency's true regionality. Trevor Simpson (198) of CANA, on the other hand, felt that the work permits did not present a problem, and that when suitable nationals could not be found, the agency did hire from outside Barbados. He cited their editor Hubert Williams, a Guyanese, as an example. And Ulric Rice (1980) of the *Advocate-News* said that work permit restrictions are simply a "fact of life" which must be dealt with in many countries. At the time of these interviews, I understand that consideration was being given to lifting the work permit restrictions for CANA employees. I have not been able to ascertain whether these have, in fact, been abolished.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, I believe the Caribbean News Agency has increased the flow of regional news. However, it appears the agency has had no significant impact on placing a Caribbean perspective on world news.

The financial constraints on the agency appear to be limiting its expansion of services. This expansion includes increasing staff at the headquarters and in the smaller countries of the region as well as farther abroad, to provide more in-depth reporting of news that is pertinent to the people of

Table 1. Regional News Items as a Percentage of All Items in the Barbados *Advocate-News* and Jamaica *Daily Gleaner*.

		Before CANA	After CANA	Before/After Totals Combined
Barbados:	Mean Items/Issue (%)	63.72	71.48	67.60
	Number of Issues	55	55	110
	Standard Deviation	9.17	6.88	8.96
Jamaica:	Mean Items/Issue (%)	64.35	74.06	66.75
	Number of Issues	55	18	73
	Standard Deviation	7.80	5.30	8.37
Time Totals:	Mean Items/Issue (%)	64.04	72.12	67.26
	Number of Issues	110	73	183
	Stand Deviation	8.48	6.59	8.72

	t-Test Results	t	Prob.
Comparisons:	Barbados Before-After	-5.02	.001
	Jamaica Before-After	-4.91	.001
	Barbados-Jamaica Before	-.388	.5
	Barbados-Jamaica After	-1.45	.147
	Combined Before-After	-6.87	.001
	Combined Barbados-Jamaica	.644	.5

Table A. Total Items of Positive Regional News in Barbados *Advocate-News* and Jamaica *Daily Gleaner*

		Before CANA	After CANA	Before/After Totals Combined
Barbados:	Mean Items/Issue	53.76	60.16	56.96
	Number of Issues	55	55	110
	Standard Deviation	14.34	11.81	13.46
Jamaica:	Mean Items/Issue	77.47	63.44	74.01
	Number of Issues	55	18	73
	Standard Deviation	21.84	16.67	21.46
Time Totals:	Mean Items/Issue	65.62	60.97	63.77
	Number of Issues	110	73	183
	Standard Deviation	21.91	13.12	19.00

	t-Test Results	t	Prob.
Comparisons:	Barbados Before-After	-2.55	.012
	Jamaica Before-After	2.49	.042
	Barbados-Jamaica Before	6.73	.001
	Barbados-Jamaica After	-.919	.5
	Combined Before-After	2.47	.00069
	Combined Barbados-Jamaica	-9.61	.0001

the Caribbean region. Further, this expansion should include development of the specialized news services--commodities, tourism, and features--which were recommended by UNESCO.

Because my sample is somewhat dated, I would recommend further research comparing my "after" sample to a more recent "after" sample to determine if CANA's impact on regional news has increased since 1979. In that analysis I would also recommend separating the "national" from the truly "regional" news. Because of the insularity of many of the regional nations, it would be interesting to see how much regional versus national news the papers carry. Although my coding included this information, I did not use it for the purpose of this paper.

In addition, I think it would be valuable to compare the actual wire copy that CANA distributes to the CANA copy that is used by papers in different parts of the region. This would clarify the papers' complaints that CANA doesn't carry enough items on certain countries or that CANA isn't able to move stories fast enough. The papers chosen should be representative of the entire region--from Guyana, Trinidad and Tobago, and Barbados to Jamaica, Belize, New Providence (Nassau), and Bermuda.

And finally, any researcher attempting to study content should try to secure copies of the newspapers rather than rely on microfilms, which are often unavailable and are always difficult to receive within a workable time limit. Further, this would facilitate measuring column inches rather than counting items. Column inch measurement would present a more accurate picture, since it would give more importance to long stories than to shorter items.

APPENDIX A: ANALYSIS OF A THIRD HYPOTHESIS

For analysis of a third hypothesis--that CANA was increasing the reporting of "positive" (economically or socially productive) news--items of Caribbean regional news were assigned to either a "positive" or "negative" category. Determination of whether a story was "positive" or "negative" was strictly subjective and determined by the overall tone of each article's content. Because of the difficulty in developing a truly objective set of criteria for categorizing items, this section of the analysis is contained in the appendix.

An example of a Caribbean positive news article might be a story about the Caribbean Regional Development Bank funding a housing project in Dominica. Its dateline is regional (Dominica) and the tone of its content is positive.

A Caribbean negative news article, however, might be a report of a chopping (murder with a machete) in Jamaica, or an article telling of British West Indies Airlines' (BWIA) plans to discontinue service to St. Lucia. Each story is of regional origin with negative implications.

The publication of "positive" regional news items didn't clearly change significantly with the advent of CANA. Roughly 80% of the regional news items in the Barbados *Advocate-News* had a positive tone in each time period. About 75% of the regional news items in the Jamaica *Daily Gleaner* had a "positive" tone. Contrary to this third hypothesis, there was no significant change in the amount of "positive" regional news. Both before and after CANA, most of the regional news carried by both papers was "positive."

However, in absolute terms, the papers behaved the same as with hypothesis one. The Barbados *Advocate-News* significantly increased its "positive" regional coverage ($t=-2.55$), while the Jamaica *Daily Gleaner* significantly decreased its coverage ($t=2.49$) (Table A).

I believe the explanation for this would be the same as for hypothesis one. The Jamaica paper was carrying less regional news, as well as less "positive" regional news. So, while the percent of "positive" regional news has increased, it has not increased significantly.

REFERENCES

Caribbean News Agency. *Memorandum and articles of association of the Caribbean News Agency Limited*. Bridgetown, Barbados: Author, January 1976.

Cuthbert, M. The Caribbean News Agency: Genesis of an indigenous news agency in a developing region. Unpublished doctoral dissertation, Syracuse University, 1979.

Lent, J.A. *Third World mass media and their search for Modernity: The case of the Commonwealth Caribbean, 1717-1976*. Cranbury, NJ: Associated University Presses, 1977.

Matta, F.R. The Latin American concept of news. Journal of Communications, 1979, *25(2)*.

McIntoch, P. A critical analysis of the impact of the Caribbean News Agency (CANA) on the print media of the region. Unpublished study, University of the West Indies, Mona, Jamaica, 1977.

Proute, J.C. Editor *Jamaica Daily News*, Gleaner Company, Kingston, Jamaica. Personal interview, July 1, 1980.

Rice, U. Sunday editor, *Advocate-News*, Fontabelle, Barbados. Personal interview, July 8, 1980.

Roppa, G.M. & Clarke, N.E. *The Commonwealth Caribbean: Regional cooperation in news and broadcasting exchange*. (Report of a Survey Mission, No. 1185/BMB. RD/MC.) Paris: UNESCO, 1969.

Simpson, T. Chief editor, Caribbean News Agency, Wildey, St. Michael, Barbados. Personal interview, July 3, 1980.

Tinbergen, J. Reshaping the international order. In R. Righter (Ed.) *Whose news? Politics, the press and the Third World*. New York: Times Books, 1975.

Telecommunications Policy and Projects in Zambia, Kenya and Nigeria: A Dilemma of Development

CARLA W. HEATH

Despite the alleged importance of telecommunications to economic and social development (U.N., 1980), telecommunications in Africa have not received the kind of scholarly analysis that other infrastructural components such as harbors, roads, and markets have. In an effort to begin to fill this lacuna, a study of telecommunications plans and policies in three African countries--Zambia, Kenya, and Nigeria--was undertaken. National development plans of each country for the two decades since independence (1960-1980) were examined for statements of national priorities and development objectives. National telecommunications plans, and sections in national development plans concerned with telecommunications, were examined and analyzed in relation to overall objectives and in relation to the nation's political economy.

The study indicates that telecommunications policies in these African nations both reflect and exacerbate a major dilemma faced by developing nations. This delemma derives from the perception of what development entails. Typically, African national planners and their external advisors have understood development to be a process whereby a nation becomes economically self-reliant and, at the same time, becomes better or more favorably integrated into the world economic system.

According to this understanding, a developing nation is one that is moving in the direction of providing basic human needs for its people out of its own resources. It is also a nation that is progressively acquiring the information, political skills, and economic clout necessary to negotiate with other nations for more equitable trade agreements and with transnational corporations for less exploitive investment practices. While this definition oversimplifies the process, it does summarize a dilemma faced by developing nations. That is: Policies that enable a nation to enhance its position in the international market place and in international political fora are frequently not policies that enable the nation to become self-reliant.

ZAMBIA: THE BACKGROUND TO NEW DIRECTIONS

Zambia is a classic example of an extractive, enclave economy. Even after two decades of independence and efforts to diversify the economy, Zambia relies on copper for 18% of its gross domestic product and 96% of its export earnings (ACR 1980-81, p.B911). Furthermore, as a landlocked nation, Zambia depends on good diplomatic and economic relations with its neighbors, as their road and rail systems provide access to the sea for Zambia's minerals. Throughout its colonial period as Northern Rhodesia, the pull of Zambia's economy was to the south and development was confined to an enclave in the copperbelt and along the rail line (Sklar, 1975).

At independence, Zambia's major goals were: (1) to become independent of its southern neighbors, which at that time were all still controlled by white minority governments; (2) to reduce disparities between urban and rural areas, and between the privileged and the poor; and (3) to reduce Zambia's dependence on copper for foreign exchange (Zambia, 1964).

The First Development Plan Period, 1966-1971

The objectives of Zambia's First Development Plan were to: diversify the economy, increase employment and per capita output, maintain price stability, minimize economic imbalance between urban and rural sectors, raise levels of education, improve housing, and develop new economic infrastructures for a new economic order (Zambia, 1966, p.5). The Plan called for a

Carla W. Heath: Graduate Student, Communications, University of Illinois at Urbana-Champaign.

281.85 million pound (L) public investment. L6.46 million (2%) was allocated to telecommunications, L5 million of which was in the form of loans to the General Post Office (GPO) for capital improvements to the existing postal and telecommunications networks and for expansion to rural areas; L272,000 was designated for broadcasting; L4678,000 for information centers in each province; L331,000 for the government printer; and L50,000 for radios to be distributed to rural areas. Recurrent expenses of the GPO were to be met from internal revenues.

In accordance with the rural bias of the Development Plan, a trunk line from Lusaka to Fort Jameson on the Malawian border was to be completed. Trunk lines to the Northern and Northwestern provinces were to be constructed. Two-way radio services between Lusaka and Mongu in the far west to be improved and many rural post offices were to be erected. At the same time, telecommunications in the main copperbelt-Lusaka network were to be improved by the installation of a microwave link, automatic exchanges, additional telephone apparatus, and many new lines (Zambia, 1966, p.69). Examination of regional allocations indicates that nearly 50% of the GPO allocation was designated for the Central Province where the capital is located. Another 24% was allocated to the Western province that contains the copperbelt. The conflicting demands of Zambian development objectives as reflected in telecommunications plans, and actual allocations are thus obvious in the First Plan.

Indicative of government concern for integrating remote rural populations into the national economy and providing essential social services to all citizens was the provision of postal, telecommunication, and broadcasting links from the core to all provinces. The fact that telecommunications was assigned to the Ministry of Information and Postal Services and considered in the Plan as "social infrastructure" seems to indicate recognition of the importance of communications to *social* development. On the other hand, pressures from the mining industries and the swelling urban populations for extended and improved communications systems were economic and political factors that could not be ignored.

A long range telecommunications plan was drawn up by a Plan Group within the GPO in 1970. That plan included a comprehensive routing scheme that was designed to: insure the logical build up of the network, permit additions without major alterations and reconstruction, and make use of existing equipment (*Enterprise* 2, 1975). Kitwe, a major copperbelt city, and Lusaka, the national capital, were designated "national centers" and, as such, were to be equipped with the highest order of exchanges. Ten "zone centers", which included the provincial capitals, were to be connected by high quality radio bearers to either national center. Three were to be connected to Kitwe; seven were to be linked to Lusaka. Eventually, all subdistricts would be connected to the national network (*Enterprise* 2, 1975).

The Second Development Plan Period, 1972-1976

For the Second Plan period, telecommunications and postal services were assigned to the Ministry of Power, Transportation, and Works. This suggests that telecommunications' *economic* role in development had become more salient. The Second Plan projected that two-thirds of the capital for Posts and Telecommunications (P&T) investments would come from domestic sources, primarily from P&T revenues. This reflected a healthy increase in that service's gross income, which had risen from 6.6 million kwachas (K) in 1966 to K11.4 million in 1970, and an anticipated 124 percent increase by 1976 (Zambia, 1971).[1]

Continued national concern for rural development was indicated by the Second Plan's proposal for "Intensive Development Zones" which were to be located in each province. These zones were to be provided with an economic and social infrastructure that would offer employment opportunities and be the base on which future industries and agribusinesses could be built. Presumably, this infrastructure would include telecommunications although that was not specifically mentioned in the Plan.

Telecommunications allocations specified in the Second Plan were consistent with national objectives to decentralize development and integrate the rural areas into the national economy. Twenty-nine percent of the budget was allocated for provincial exchanges, local networks and "extended services" to remote areas. Another 25% was to be used to construct the national trunk network to which provincial exchanges would be connected (Zambia, 1971, pp. 255-257).

It is important to notice that, in accordance with the 1970 Telecommunications

Plan, rural and provincial exchanges were to be connected to the two national centers rather than to each other. It is economically logical to construct telecommunications systems between centers of high demand. This has been the typical pattern of telecommunications expansion throughout the world. In Zambia linking zone centers to national centers facilitated communications with the national capital and the center of the copperbelt but did not, initially, improve intra-or inter-provincial communications.

In addition, it should be noted that only K3.5 million was allocated for special equipment to serve isolated farmers, missions, and stores. However, the Plan allocated K12 million for extensions to exchanges and cable networks in cities on the line of rail. These cities were already better served than other towns in the country. It also allocated close to K3 million for an Earth station and K660,000 to improve other modes of international communications. In other words, 30% of the budget was specified for services that would benefit the national administration and parastatals--which depend on international business and banking transactions--but that would not directly benefit the majority of the population (Zambia, 1971, pp. 255-257).

The Third Development Plan Period, 1977-1981

The Third National Development Plan allocated K120 million for telecommunications out of a total projection of K3,000 million; K10 million was allocated for rural exchanges to be built by ITT/Zambia; K6 million was to be spent on telecommunications links with other African countries. Of particilar importance was the microwave link to Nakonde on the Tanzanian border that linked Zambia to the Pan-African Telecommunications (Panaftel) network (*Enterprise* 3, 1979).

The Earth station near Lusaka that had linked Zambia to Intelsat IV since 1972 provided direct telecommunications with other African Intelsat members as well as with Europe (*Enterprise* 2, 1975).
The possibility of quick, efficient communications with important commercial partners led to demands for complementary domestic services, which were included in the Third Plan. For example, new international telephone exchanges in Lusaka were to be build by ITT/North America, and international telex lines were to be constructed by Plessey (*African Business*, 1982; *Enterprise* 3, 1979; Zambia, 1981).

Political-Economic Constraints to Telecommunications Development

Difficulties encountered by the institutions responsible for telecommunications in Zambia have resulted from economic conditions that are fairly universal in Africa but that have been aggravated by Zambia's dependence on copper for foreign exchange. The First and Second Plans were made during years of relative prosperity in Zambia. The price of copper on the world market was high. With an average growth in the Gross Domestic Product of 6.8%, the Zambian economy appeared to be healthy (Zambia, 1971 p. 40).

In 1975, however, Zambia experienced a K147.8 million trade deficit as opposed to a K18.6 million surplus the year before (*ACR* 1976-77, pp. B402-B426). Several factors contributed to this economic reversal. The price of copper declined at the same time that the price of oil increased. This high cost of petroleum was particularly significant in Zambia because of political developments in the region. Southern Rhodesia's unilateral declaration of independence in 1965 had led Zambia to sever all relations with that neighbor. The war for liberation in Angola rendered that rail route to the sea unsafe. As a result, goods to and from Zambia had to be transported, at considerable cost, by road through Tanzania. By 1978, the situation had became so acute that Zambia had to negotiate a K344.6 million International Monitary Fund loan to keep the economy and, with it, the copper mines (which supply 12% of the world's copper) from collapsing (*ACR* 1977-78, pp. B463-B484).

Telecommunications capital development projects were affected by insufficient funds from national sources, by difficulties in raising loans abroad because of Zambia's precarious financial position, and by declining internal revenues. The impressive annual increases in P&T revenues in the early 1970's--on which telecommunications development plans had been based--did not continue (Zambia, 1971). Rather, the Posts and Telecommunications Corporation (PTC) lost between K3 million and K4 million annually from 1977 to 1980 (Zambia, 1981). This deficit was attributed to depreciation of equipment, high interest rates on loans, and increased costs for goods and maintenance (Zambia, 1981).

Transportation difficulties led to delays in delivery of equipment; as a result, plans fell behind schedule. As of 1976, only K17.2 million, instead of the planned K49 million had been spent on telecommunications developments (*African Business*, 1982). Several projects had to be

suspended in 1979 because loans were not available. The *Economic Report for 1980* notes that even projects for rural areas had to be suspended (Zambia, 1981). Thus, official publications maintained the image of rural priorities. However, the report does not say whether commercially viable, urban projects were also delayed.

KENYA: COLONIAL ROOTS OF TELECOMMUNICATIONS DEVELOPMENT

Telecommunications development in Kenya has been primarily influenced by patterns of modernization established by the colonial government. Subsequent decisions made by the government of independent Kenya not to radically alter those social and economic patterns support this influence. In 1899, the headquarters for the Ugandan Railroad was moved from Mombasa to Nairobi. Since then, Nairobi has been the transportation and communications center for Kenya and, in fact, the whole of East Africa (McKim, 1979). Nairobi's early position as a transportation and administration center, through which local goods and information were funneled to Britain and other colonies, is reflected in the pattern of telecommunications development in the country. Other towns and cities have been linked to Nairobi first and then to each other. Similarly, modern intra-African and intercontinental telecommunications links have been established with Nairobi first and with Mombasa later.

The presence of a relatively large white settler population created a demand for an expanding, well-integrated telecommunications system and largely provided the financial support. However, areas which were not developed by the whites were underserved by transportation and communications systems of all kinds (McKim, 1979). A major task of the government of the Republic of Kenya has been to provide those neglected areas with the social and economic infrastructure necessary to integrate them into the national economy and polity.

Another determining factor in Kenyan telecommunications development was the British administration's interest in cutting administrative costs and in rationalizing the region's economy. As a result, region-wide common services that included posts and telecommunications evolved. With the establishment of the East African High Commission in 1948, the Posts and Telegraphs Department became a self-financing service of the Commission. The East African Posts and Telecommunications Administration (EAPT or, from 1967, EAP&TC) was responsible for providing postal, telephone, radio-call, telegraph, telex, money order and savings bank services in Kenya, Uganda, and the Tanzanian mainland. (Kenya, 1966).

The East African Community Telecommunications Administration

According to the terms of the Treaty for East African Cooperation that established the East African Community, the self-contained services were to conduct business according to commercial principles. Revenues were to cover recurrent expenses that included: depreciation of capital assets, pensions, interest, and repayment of loans (*Kenya Gazette*, 1968). The EAP&TC was controlled by a Board of Directors. The chairman and three members were appointed by the Authority of the Community (the three national presidents); each partner nation appointed one other board member. Policy was made by the Board with due consideration to national development plans and objectives. Major changes on rate policy and capital investment decisions required approval of the Authority.

In 1964 the EAPT took over responsibility for external telecommunications from Cable and Wireless (UK) Ltd., and, thereby, became the major shareholder in a new corporation, the East African External Telecommunications Corporation (EAT) (Mazzeo, 1975, p. 27).

Several factors concerning the EAP&TC as a whole should be considered before specific plans and projects for Kenya itself are examined.

Telecommunications in independent East Africa were based on well-established physical and administrative structures. The individual countries were spared the expense of establishing their own P&T administrations and costly international telecommunications systems. Long range plans were drawn up to take account of the needs of the region as a whole. However, the need for EAP&TC to remain economically viable and the absence of any significant financial contributions from the national treasuries led the Corporation to provide services in response to commercial demands. Only in this way was the EAP&TC able to finance major capital projects and to support some socially valuable, but less remunerative, services.

Although development plans projected that the EAP&TC and EAT would provide 60% of the funds needed for development projects from their own revenues, the EAP&TC was barely able to raise half the necessary funds from its own resources, so the

remainder had to be raised abroad. This proved quite difficult as foreign lenders typically prefer to make bilateral arrangements with individual nations rather than to negotiate with regional organizations. Increased interest in telecommunications on the part of the World Bank in the late 1960's (World Bank, 1972) made it possible to obtain several large loans from the International Bank for Reconstructuion and Development. These loans were in the amount of L4.6 million in 1967 and L3.7 million in 1970. An additional L3.24 million was borrowed from the United Kingdom during the first development decade (Mazzeo, 1975). These foreign debts were incurred by the Corporations, not the East African countries, and had to be serviced and repaid with corporate revenues.

After dissolution of the East African Community in 1977, each country set about to establish its own airline, railroad, and P&T administration. In Kenya, two self-sufficient corporations were established: the Kenya Posts and Telecommunications Corporation (KPTC), and Kenya External Telecommunications (Kenextel). These corporations appear to function in much the same manner as their predecessors. Although they are under the control and regulation of the Ministry of Power and Communications, and their development expenditures and schemes are detailed in Ministry plans, they are self-financing institutions and are obliged to cover recurrent, as well as capital, expenses from internal revenues or to raise loans on their own initiative and at their own expense.

In June 1982, Kenextel was merged with KPTC for reasons which were not made clear to the public (*Weekly Review*, Oct. 1982, p. 23). Possibly this was a move to rationalize administrative costs and to enable KPTC to use revenues from lucrative external telecommunications services to subsidize rural services (Kenya, 1982, p. 202). The move was also probably part of general national belt-tightening, as Kenya was experiencing an economic crisis. World prices for coffee and tea, Kenya's major export crops, had declined. About three-fifths of export earnings were needed to pay for fuel, and debt service rose from 8.1% of the budget in 1979 to 19.8% in 1981 (*ARB* 19:9, 1982).

The International Monetary Fund suspended its programs in Kenya until a series of domestic reforms were instituted. Although the telecommunications corporation in Kenya have consistently made a profit, their ability to raise funds abroad was hampered by the general condition of the national economy and they increasingly had to look to internal sources for development funds.

The First Development Plan Period, 1965-1969

A survey of Kenya's national development plans and the role of telecommunications in them indicates a growing awareness over the years of the importance of telecommunications to social and economic development.

The emphasis of the First Plan was on increasing the proportion of the population that participated in the modern sector of the economy. Thus, small land holdings were consolidated and registered so that farmers would be eligible for loans and inputs necessary for raising cash crops. Land bought from departing whites was divided into smaller holdings and sold to Africans.

Commercial enterprises were encouraged. One form of that encouragement was extension of telecommunications services to industrial and commercial centers where the demand was high. Direct telephone links with neighboring states--Zambia, Malawi, Sudan, and Ethiopia--were to be strengthened to facilitate improvements in Kenya's trade with those countries (Kenya, 1966 p. 295). Although it was not a priority, the EAPT did allocate some funds for the "provision of uneconomic facilities which are needed on the basis of other considerations" (Kenya, 1966, p. 269). As in Zambia, such considerations were an extension of social amenities to peripheral areas and a means of integrating those areas into the national political economy.

The Second Development Plan Period, 1970-1974

In order to incorporate a greater number of people into the modern sector and to encourage industrial growth in several areas of the country, the Second Plan included a comprehensive physical development plan. This Plan designated specific growth centers. Specific towns and cities were to be given priority in the development of public services--health, education, recreational facilities, and public works. In accordance with this scheme, the East African Development Programme for Telecommunications for the Seventies was designed to meet forcast demands and to "take account of known future developments of industrial and residential areas" (Kenya, 1969, p. 409). All of the designated "growth centers" were among the towns which were to

receive new extensions and exchange lines. Priorities for additional trunk line equipment were, in every case, for designated "growth centers" with 8 out of 14 of the lines originating in Nairobi (Kenya, 1969, p. 410).

External telecommunications projects for the period included building a KL1.5 million Earth station at Longonot, Kenya. This station provided links to Intelsat IV over the Indian Ocean. A second project involved installation of trunk routes from Mombasa and Nairobi to several cities in Uganda and Tanzania (Kenya, 1969).

The Third Development Plan Period, 1974-1978

The Third Plan outlined a greater government role in directing the economy. More emphasis was placed on rural development and equitable income distribution than in previous plans. Investments in rural infrastructure and policies to encourage labor-intensive export industries were given priority. Plans for building infrastructure in designated centers were maintained, even though it was apparent that there had been many "ad hoc decisions about siting development projects without reference to the physical Plan" (Kenya, 1974, Part I, p. 117).

In accordance with the stated change in national emphasis, the EAP&TC also declared an emphasis on rural telecommunications for Kenya (Kenya, 1974, Part II p. 164). Thus, KL477,000 was allocated for the installation of new manual exchanges and the extension of already-connected rural exchanges. However, 74,281 new lines were also to be added to the automatic exchanges in urban areas to meet increased demand there. Another KL9,593 million was to be spent on reinforcing and extending the trunk system, which did not appear to extend to the sparcely settled northern and north-eastern parts of the country (Kenya, 1974, Part II, p. 165-167). Attention to commercially profitable services was certainly linked to the fact that nearly two-thirds of EAP&TC expenditures required foreign exchange (Kenya, 1974, Part I, p. 363).

The Fourth Development Plan Period, 1979-1983

The Fourth Plan stated concern for the worsening economic situation. It also noted that government spending had grown faster than revenues and would, therefore, have to be cut. The Plan called for greater use of local resources for creating export industries. Additionally, it supported the development of the country's arid and semi-arid areas in order to alleviate growing pressure on more fertile regions.

For the first time, a Development Plan stated clearly that "telecommunications plays a very significant role in the development of political, social, and economic sectors of our society" (Kenya, 1979, Part II, p. 87). This statement appears as a preface to and, perhaps, as a justification for the Plan's emphasis on modernizing existing facilities with the most up-to-date technology. Modernization plans included: (1) completion of Kenya's portion of the high capacity Panaftel microwave system with links to Ethiopia, Tanzania, Zambia, and Malawi; (2) introduction of International Subscriber Dialing; (3) access to Subscriber Trunk Dialing from public call boxes; (4) a second antenna at Longonot to gain access to the Atlantic Ocean Intelsat; (5) an Earth station at Mombasa; (6) an automatic telex exchange; (7) a multipurpose offline computer; (8) modification of the microwave links for color television; and (9) a television converter center at Longonot (Kenya, 1970, Part II, p. 86-95). As in the past, two-thirds of the KL62.874 million telecommunication bill would require foreign exchange.

Rural manual exchanges were to be built in remote regions of the country during this plan period. However, allocations for rural facilities equalled only 12% of the total telecommunications budget. This is an apparent discrimination in favor of more affluent sections of the country. In fact, the matter is somewhat more complex. As long as a country must rely on hard currency for development, it is forced to give priority to those sectors of the economy that earn or help to conserve foreign exchange. In Kenya those sectors are cash crops, industries that produce substitutes for imports and are beginning to product for export, and tourism. All three of these sectors depend heavily on efficient communications systems (Goldschmidt, Hudson & Lynn, 1980). Kenya has been an attractive country for multinational investments--partly because of the stable political situation and positive government policies towards foreign investors, and partly because of telecommunications facilities that work fairly well. These conditions have also led international research and service institutions and news agencies to establish headquarters in Kenya. These

institutions bring in valuable hard currency and contribute substantially to the nation's prestigeous international image.

NIGERIA: POLITICAL AND ECONOMIC CONSIDERATIONS

The British colonial government in Nigeria apparently devoted few resources to the development of telecommunications within the county. The system which existed in the country at independence in 1960 was antiquated and woefully inadequate for the needs of a large, modern nation. International telecommunications had to be routed through Lagos and then through London. Few major cities were linked by telephone, and rural areas were not served at all (Nigeria, 1960; Lawson, 1971). This legacy has forced Nigeria to spend huge sums on telecommunications in the years since independence. However, it has been the dynamics of Nigerian politics that have determined the direction telecommunications development has taken.

In order to understand the political economy of the Federal Republic of Nigeria, it is essential to consider the factors that led to the creation of the federation in the first place. Components that Britain amalgamated into the Colony and Protectorate of Nigeria included the Sokoto Caliphate, several powerful kingdoms and city states, and numerous independent polities. Colonial policies in the various regions encouraged ethnic identities and loyalties and different degrees of development and integration into the world economy. Therefore, at independence a federal structure was the only means by which unity could be maintained. The form of this structure has undergone several significant changes since 1960.

The balance of power between the federal and regional governments in the First Republic favored the regions and was a major factor in precipitating the Civil War (1967-70) that nearly tore the nation apart (Whitaker, 1981). Creation of new states dissipated the power of the original regions, and the constitution of the Second Republic (1978) gave greater power to the federal government. Nevertheless, to prevent centrifugal political force from destablizing the country again, simultaneous steps have been taken to encourage decentralized development (so that each state contributes to and shares in national growth), and to link the states more closely to each other and to the center.

A second major factor in Nigeria's political economy is the assumption held by those in power, and by Nigerians holding positions of leadership in international policy-making bodies, that development is indicated by increased participation in the world market economy. Telecommunications have had a crucial role to play both in facilitating this form of development and in accomplishing national integration. A review of Nigerian telecommunications policy, as spelled out in national development plans and in the development literature (e.g., Ilugbuhi, 1968; Kuhn, 1971, Lawson, 1971; Onyejekwe, 1981; Ukwu, 1980,), indicates what that role has been.

Nigerian Telecommunications Administrations

At independence, internal telecommunications were the responsibility of the P&T Department. External telecommunications were controlled by Cable and Wireless (U.K.) Ltd. The First Plan hinted at structural changes for both those institutions. By 1963, the Nigerian government had bought controlling interest (51%) in Cable and Wireless's Nigerian operations. In 1972, it bought the remaining shares. The newly incorporated Nigerian External Telecommunications (NET) was to operate from Lagos as a profit-making concern. The chairman of the corporation was the Permanent Secretary to the Ministry of Communications and its board of governors was appointed by the Federal government (*Nigeria Yearbook*, 1974).

A 1963 study conducted by Western Electric, an AT&T subsidiary, for the P&T proposed a National Telecommunications Programme and the reorganization of the P&T to insure successful implementation of the program. The P&T had been providing subsidized services to its customers for years; in particular, services were free of charge to government offices (Nigeria, 1962, p. 40 ft. nt.). According to F.O. Lawson (1971) of the Ministry of Communications, in order to obtain loans from international sources, it was necessary to reorganize the P&T along commercial lines.

The result was a quasi-commercial, state owned organization. The P&T was to pay its recurrent expenses from its own resources and it was given authority to raise loans and invest its surplus. However, its staff were to continue to be civil servants employed by the Federal Public Service Commission. This, according to Lawson (1971), stripped the corporation of the "flexibility, initiative and freedom

of action usually associated in the public mind with such organizations" (p. 532). The contradictions inherent in this quasi-commercial arrangement continue to plague the P&T to this day.

As statutory corporations, the P&T and NET were required to finance only part of their capital development from their own resources. Rates were to be set so that they benefited the entire country's economy. If uneconomic services of a social service character were required, government was to consider to what extent those would be subsidized (Nigeria, 1970, p. 337). Thus, the mechanism for providing unprofitable services to rural areas was established. The extent to which such services have, in fact, been provided has depended on political expediency and available capital.

The First Development Plan Period, 1962-1968

Nigeria's First National Development Plan was couched in Rostowian terms. It was to be the "first stage towards take off," self-sustained economic growth was expected within 20 or 25 years (Nigeria, 1962, p. 4). Priority was to be given to projects that would sustain a high rate of growth. Projects that required subsidies were regarded as burdens and were to be "limited to what was compatible with social justice and the evolution of a nascent economy" (Nigeria, 1962, p. 4).

A major problem for development as projected in the First Plan was the shortage of capital for development projects. There were few domestic institutions in a position to lend capital for such projects. The nation's major resources were still agricultural as exploitation of oil deposits in the east had just begun.

In order to earn foreign exchange, efforts were directed to developing modern production of export crops, establishing local industries that would limit the need for imported consumer goods, and training high and intermediate level manpower (Nigeria, 1962, p. 32). The physical infrastructure necessary for an expanding economy was to be extended. A significant feature of the First Plan was that it assumed that nearly half of the total L660.7 million[2] planned for capital programs could be raised abroad. It was expected that Nigeria's open economy, with liberal tax policies for investors, would attract foreign capital.

In accordance with the First Plan's emphasis on growth in the commercial and industrial sectors, L27.4 million was allocated to the P&T for: (1) the installation of 60,000 new exchange lines; (2) the expansion of trunk dialing facilities between major urban commercial and industrial centers; and (3) the introduction of a telex system (Nigeria, 1962, p. 39).

With the adoption of the National Telecommunications Development Programs in 1963, a systematic expansion began. Like that planned for Zambia and Kenya, Nigeria's expansion was to occur in centers where commercial and administrative demand was high. Initial links were to be between those centers. In Step I, heavy duty radio routes between sites in the southern part of the country were to be installed. In Step II, additional phones were to be installed in cities along the routes built in Step I. In particular, 7000 lines were to be provided in the Lagos metropolitan area. Step III entailed building links from major southern cities to major northern cities and adding more lines in cities already served. Step IV called for extending service in response to demand (Lawson, 1971, p. 534).

Failure to implement all of the First Plan has been attributed to the national crises--two coups and a civil war--that occurred during the plan period. The unstable political situation frightened potential external investors and diverted resources towards war rather than development. The crises were particularly serious for telecommunications, as much of the plant in the east was destroyed during the war.

According to Lawson (1971), internal factors were also responsible for P&T failures to meet objectives. He maintained that civil service requirements had resulted in inefficient management, defective recruitment practices, and gross overstaffing. He also pointed out that while provisions to train staff had been made, provisions to re-train them to use and maintain *new* equipment had not. Furthermore, no provision to manufacture spare parts had been made (Lawson, 1971, pp. 538-542).

Nigeria's telecommunication system, like those of Zambia and Kenya, was thus doubly dependent on industralized nations. It depended on sales of exports to those nations for foreign exchange to finance projects. And, it depended on transnational telecommunications corporations to

provide the technology and know-how to build and maintain those projects.

The Second Development Plan Period, 1970-1974

Nigeria's Second National Development Plan was a plan for reconstruction. War torn areas had to be rebuilt and the state itself restructed to minimize the tensions that had nearly destroyed it. The Plan emphasized that development must be balanced between urban and rural areas and among all people and all geographic regions. In direct contrast to the First Plan, which had been oriented to an export economy, the Second Plan stated that a primary objective of national policy was to promote and maintain unity and interdependence of the national economy. Nigeria was to develop through the control of its own resources rather than through reliance on external aid.

However, it must be noted that in Nigeria economic nationalism has meant elimination of foreign financial management and technological control but not the elimination of foreign investment.[3] Although efforts were made during this period to begin domestic manufacturing of components and spare parts for communication equipment, highly specialized technology still had to be imported. Figures for 1973-75 indicate that values of those imports tripled from N22,780,00 to N76,070,00 (Maclean & Arnold, 1978). These figures reflect major telecommunications development programs for the period which are outlined below.

Telecommunications policies for the second plan period were compatible with overall national policies. The first priority was restoration of war damaged facilities in the east; 11% of the N42.641 million telecommunications budget was directed to that effort. In keeping with the government's attention to national integration, 50% of the budget was directed to completing Steps II & III of the National Telecommunications Programme. Step II was to strengthen links between southern cities, and Step III was to link southern and northern cities. A sum of N5.640 million (13%) was allocated to external telecommunications--N2.255 million to NET and N3.385 million for an Earth station to be installed at Lanlate.

Creation of new states with their own capitals, bureaucracies, universities, radio stations, and newspapers placed new demands on the P&T but also provided opportunities for commercial expansion and for increased revenues. These allocations and political developments clearly indicated an urban, commercial bias that was specified in the Plan itself. The Plan referred vaguely to intentions to extend and improve communication facilities in rural areas but maintained "it is, however, not considered economically feasible, during the Plan period, to embark in a big way on the extension of telephone services to the rural areas" (Nigeria, 1970, pp. 212-214).

The Third Development Plan Period, 1975-1980

Nigeria's Third National Development Plan reflected both the oil boom, which made a host of grandiose projects seem possible, and the Federal Military Government's genuine concern for more equitable distribution of the benefits of the nation's wealth (Onyejekwe, 1981). In contrast to the previous plans, the Third Plan emphasized sectors that affect the welfare of ordinary people (Nigeria, 1975). Subsidies in the form of electricity, water, health care, and community development projects were advocated. Universal Free Primary Education was introduced, a grade per year, beginning in 1976. Vocational training became a priority; and many technical colleges were established.

This N30 billion development plan allocated N475.5 million (2%) to telecommunications. Of this, 64% was to be spent on installing automatic telephone exchanges in 51 centers, adding 500,000 new lines, and expanding the microwave radio system. In line with the Plan's emphasis on vocational training and lessening dependence on external technology and know-how, the P&T research, technology, and planning division was to be strengthened. Training facilities in four cities were to be expanded with a N17 million allocation. Several Intelsat related projects were included. N80.7 million was designated for a second Lanlate antenna, SPADE equipment for both Lanlate stations, and a new Earth station at Kaduna (Nigeria, 1975). In keeping with national policy in regard to the states, domestic Earth stations were installed in each of the 19 state capitals. Transponders were leased on a preemptive basis from Intelsat to provide domestic service, in particular, to transmit national television programs. While this system has improved communications between state capitals, local exchanges and lines to the Earth stations remain inadequate. This makes inter-urban as well as international telecommunications difficult and often impossible.

Only N22.68 billion rather than the allocated N30 billion was actually spent

during the Third Plan period. President Shagari attributed the short-fall to the attempted coup in 1975, the creation of new states in 1976, a public services purge, port congestion, and manpower and materials shortages (*ARB*, 1981, p. 5821). It is perhaps significant that only 150,000 new telephones were installed while the satellite related projects were all undertaken as planned. One can only speculate about projects that might have touched rural areas.

The Fourth Development Plan Period, 1981-1985

The Fourth Plan, the First for the Second Republic, called for spending N82 billion on development projects with N2 billion (2%) allocated to communiations (*Africa Magazine*, 1981). Those huge sums appear to reflect economic growth and inflation and not the plans for prestige projects that had characterized past plans. Although the percentage of the development budget allocated to telecommunications had not changed since 1970, for the first time in Nigerian national development plans, telecommunications were recognized as a priority.

Projects for the period included doubling the number of telephones, improving switching facilities and trunk services, and adding 7,350 telex lines (*ARB*, 1981, p. 81-82). Nigerian External Telecommunications projects were completion of the Kaduna Earth station and of the Panaftel West African submarine cable that linked Lagos to Abidjan and thence to Senegal, Brazil, France, and the U.S. Both projects were completed within the first two years of the Plan period. If the Plan included projects to serve rural Nigeria, they did not receive attention in the international press.[4] Concern for more equitable distribution of the nation's wealth, which characterized the military period, seems to have been set aside and unvarnished capitalism restored.

This analysis of Nigeria's telecommunications developments demonstrates the importance attached to developing commercial and industrial sectors of the nation's economy. Most domestic enterprises still require foreign inputs and that makes modern, external communications systems a top priority for Nigeria's business community. Even though billions of naira have been spent on agriculture in the years since independence, much of that has been spent to encourage large-scale, heavily-capitalized projects that also require imported inputs.

Very little has really trickled down to the ordinary small farmers. Political demands for more equitable distribution of national wealth and services, such as telephones, have been met only by enhancing the political and economic positions of state capitals, not by a concerted effort to incorporate rural areas into the national economy.

CONCLUSION

The foregoing analysis indicates that the objectives of capital development plans for telecommunications administrations in Zambia, Kenya and Nigeria do echo stated national development objectives. The analysis also indicates that, in each case, the policies of the administrations (as shown by allocations for specific types of development projects) mirror unstated national priorities.

The unstated priority for each of the countries under consideration here is accumulation of the foreign exchange perceived to be essential for obtaining inputs--money, technology, spare parts, and management skills--for projects that will lead to self-sustained economic growth.

This unstated priority, rather than long-range national goals such as more equitable income distribution, increased real income for the entire population, or provision of social services to all regions and all people, has been the major determinant of telecommunications investment policies. It has been translated into policies that provide telecommunication services that are immediately profitable, services that support and encourage enterprises that are themselves expanding and making money. These enterprises have typically been located in urban areas.

Pressure on telecommunications administrations to turn a profit are particularly acute due to the sophisticated nature of telecommunications technology. As figures for Kenya show, up to two-thirds of the inputs for telecommunications projects must be paid for in foreign exchange. In situations where competition for foreign exchange is high, capital-intensive projects must justify their allocations. Telecommunications administrations do this by providing services that contribute to the growth of the sectors that earn foreign exchange--mines, oil wells, cash crops, and tourism, or by providing services that enable local enterprises to operate more efficiently and thereby conserve foreign exchange. It would seem that giving particular attention and services to local

enterprise offers greater possibilities for approaching self-sustained growth than does giving priority to the export sector, as has been the policy to date.

Even where efforts have been made to extend telecommunications services to rural areas, extension by terresterial means has resulted in extended and enhanced services in the centers. This in turn, further contributes to the existing imbalance of telecommunication services within the country.

To put this another way, it is clear from development plans that planners have assumed that rural telephones will be used to better integrate rural areas into the national economy and to improve communications between information centers in the capitals and locally-based service personnel--health officers, teachers, and agricultural extension workers. Therefore, if telephone services are extended to the periphery, trunk lines to national or provincial capitals must be strengthened and additional lines made available in the capitals to accomodate increased traffic. Of course, local telephone systems do not have to be linked to the nation's capital; they could be self-contained or linked to other village systems. However, such a telecommunications design would require a different definition of development and an orientation away from an export-based economy.

Finally, it must be emphasized that what telecommunications expansion in Africa has done for relations between peripheral nations and industrialized centers is parallel to what that expansion has done for relations between peripheral people and their national centers.

Improved telecommunications systems and, in particular improved international links, have facilitated coordination of African economic and diplomatic policies. They have increased the flow of information into and out of the continent. They have strengthened certain sectors of the African economies that industrialized nations, as well as local elites, are interested in maintaining.

On the other hand, purchase of sophisticated telecommunication technology has increased African dependence (1) on transnational corporations that supply additional compatible components and spare parts, and (2) on sales of commodities to industrialized nations that provide the foreign exchange to pay for the technology.

At the domestic level, telecommunications services to rural areas have improved or will improve the capabilities of certain individuals or groups in those areas to participate in and benefit from a growing national economy. However, participation in that economy carries with it the danger of becoming dependent upon it. For example, as farmers switch from producing food crops like maize and rice to growing cash crops like coffee and tea, they become dependent on national transportation and marketing systems. They need those systems in order to realize cash returns that enable them to purchase food and other necessities that they formerly produced for themselves.

Delineation of this dilemma is not intended to suggest that autarchy is a viable alternative or that modern amenities should not be provided to peripheral areas. Rather, it is intended to lead to an understanding of the contradictions inherent in the chosen model of development that is essential to resolving those contradictions.

NOTES

1. In 1968, Zambia changed its currency. At that time, two Kwachas (K2) equalled two Zambian pounds equalled one pound sterling (L1).
2. When Nigeria converted to a decimal system, one Naira (N1) equalled one old Nigerian pound equalled one pound sterling (L1).
3. This is well demonstrated by the 1977 Enterprise Promotion Decree that is detailed and discussed in Maclean and Arnold (1978).
4. Information on Nigeria's Fourth Development Plan has been culled from *ARB* (1981 and 1982) and *Africa Magzine* (1981).

REFERENCES

ACR (Africa Contemporary Record). C. Legun (Ed.). London: Rex Collins, annual.

Africa Magazine. London, April 1981 (116).

ARB (Africa Research Bulletin). Exeter, England: Africa Research, Ltd., Economic, Financial, and Technical Series, monthly, 1981 and 1982.

African Business. London: January 1982.

Enterprise. Lukasa, Zambia: 1975 (2); and 1979 (3).

Goldschmidt, D., Hudson, H. & Lynn, W. *Rural health care: An overview*. For USAID Contract Ta-C-1473, May 1980 (mimeo).

Ilughuhi, T.O. *Nigeria's experience in domestic financing of development*. Zaria,

Nigeria: Ahmadu Bello University. Institute of Administration, 1968 (mimeo).

Kenya Gazette. Treaty for East African Cooperation Revised 1968. Nairobi [?]: [Government Printer?], 1968.

Kenya, Republic of. *Development Plan 1965/66--1969/70*. Nairobi [?]: Government Printer [?], 1966.

_____. *Development Plan 1970-74*. Nairobi: Government Printer [?], 1969.

_____. *Development Plan 1974-78*. Nairobi: Government Printer, 1974.

_____. *Development Plan 1979-83*. Nairobi: Government Printer [?], 1979.

_____. *Economic Survey 1982*. Nairobi: Government Printer, 1982.

Kuhn, T.E. Transport and communications systems: Planning for reconstruction and development. In A.A. Ayida & H.M.A. Onitiri (Ed.), *Reconstruction and development in Nigeria*. Ibadan: Oxford University Press, 1971.

Lawson, C.C. Comments on Kuhn's paper. In A.A. Ayida & H.M.A. Onitiri (Eds.), *Reconstruction and development in Nigeria*. Ibadan:, Oxford University Press, 1971.

Maclean, I. & Arnold, G. *Statistical guide to the Nigerian market*. London: Kogan Page, 1978.

Mazzeo, D. *Foreign assistance and the East African common services during the 1960's with special reference to multilateral contributors*. Munchen: Weltforum, Verlag, 1975.

McKim, W. Patterns of spatial interaction in Kenya. In R.A. Opudho & D.R.F. Taylor (Eds.), *The spatial structure of development: A study of Kenya*. Boulder, Colorado: Westview Press, 1979.

Nigeria, Federation of. *National development plan 1962-68*. Lagos: Federal Ministry of Economic Development, 1962 [?].

_____. *Second national development plan 1970-74*. Lagos: Federal Ministry of Information, 1970 [?].

Nigeria, Federal Republic of. *Building a greater Nigeria*. Lagos: Federal Ministry of Information and Printing, 1975 [?].

_____. *Handbook of commerce and industry*. Lagos: Federal Ministry of Commerce and Industry, 1960.

Nigeria Yearbook. London: Daily Times, 1974.

Onyejekwe, O. *The role of the military in economic and social development: A comparative regime performance in Nigeria 1960-79*. Washington, D.C.: University Press of America, 1981.

Sklar, R. *Corporate power in an African state: The political impact of multinational mining companies in Zambia*. Berkeley: University of California Press, 1975.

Ukwu, U.L. Transport and communication factors in modernization and development of Nigeria. In E.D. Amucheazi (Ed.). *Readings in social sciences: Issues in national development*. Enugu, Nigeria: Fourth Dimension, 1980.

United Nations General Assembly. *The crucial role of institutional and physical infrastructure for transport and communications development*. UN Document No. A/AC.196/19. May 22, 1980.

Weekly Review. Nairobi: April 2, 1982; and October 10, 1982.

Whitaker, C.S. Second beginnings: The new political framework. In *Issue* (1/2), Spring-Summer 1981.

World Bank Operations: Sectoral Programs and Policies. Baltimore: Johns Hopkins University Press, 1972.

Zambia, Republic of. *An outline of the traditional development plan*. Lusaka [?]: 1964 [?].

_____.*First national development plan 1966-1970*. Lusaka: Office of National Development and Planning, 1966.

_____. *Second national development plan Jan. 1972-Dec. 1976*. Lusaka: Ministry of Development Planning and National Guidance, 1971.

_____. *Economic report 1980*. Lusaka: Office of the President, National Commission for Development Planning, 1981.

The Media in Belize: Three Exploratory Studies

CANDICE FRANCIS, MOLLY ROSE TEUKE, SONJA WILLIAMS, OMAR OLIVEIRA, AND DREW McDANIEL

The following is an interim report of a longitudinal analysis of the evolution of media and the resulting effects on social patterns in Belize. The project was undertaken by the School of Telecommunications at Ohio University beginning in 1980. This particular account refers to the findings of a study conducted in Belize by a team of graduate students in November and December, 1982.

The newly-independent nation of Belize is located in Central America. It is bordered on the north by Mexico, in the west and south by Guatemala, and has an eastern coast on the Caribbean. Roughly the size of New Hampshire, the country has a population of 150,000 people who belong to a variety of ethnic and language groups (Setzekorn, 1975).

The Creoles are the largest group, comprising about 40% of the population. They are dsecendents of Africans and Europeans. The Mestizos constitute a little less than one-third of the nation's inhabitants and are a mixture of Spanish and Mayan heritage. The Garifuna, mostly of African ancestry, represent about 10% of the population. The remaining 20% is divided among Mayan, European, Chinese, Lebanese, East Indian, and other groups (Abstract of Statistics, 1981).

The official language in Belize is English. Oral communication, however, is mostly in the local dialect, Creole. Most Mestizos use Spanish as their preferred mode of communication, while the Garifuna speak in a language descended from Afrian tongues. English is commonly used for communication between different ethnic groups.

Religious practice follows a similar pattern. Roman Catholicism is predominant in areas where Spanish-speaking peoples live; among the Creole speakers, Protestant religions are most common; and the Garifuna have preserved African religious rituals.

Belize is reflective of the less-developed world in all measures except literacy, which is close to 90%. Income per capita is $1,200 per annum. The main goals of the present administration are (a) economic development and redistribution of income and (b) national and cultural unification. Major sources of income are sugar cane and citrus cultivation, along with the fishing industry.

THE MEDIA

The only officially recognized broadcasting institution in the country is government-owned Radio Belize. However, in the northern districts there is wide reception of radio and television signals from Mexico. Elsewhere, radio signals are less reliably received by standard broadcasting and shortwave. A recent phenomenon has been the introduction of unsanctioned rebroadcasting or cable distribution of satellite television services.

Within the past three years, Belize has faced a totally new set of conditions. Independence has brought new responsibilities for policy development; as elsewhere, economic conditions have generally worsened; and the pressures of technological development have brought numerous problems. All of these factors have created a new climate for the media. The objective of the survey reported here was to assess the present service of the media, both from the perspective of the audience and from the viewpoint of those responsible for communications programs.

Each member of the research team gathered data by interviewing media and government officials and by conducting surveys of media use by the public. The interview schedule used in this study consisted of a set of common items and one of three sets of questions used in separate pilot studies of particular areas of interest. Each of the researchers was responsible for collection and analysis of data for his or her own pilot project. Unless otherwise noted, the figures mentioned in the following accounts refer to data collected in one of the three pilot studies--comprised of approximately 24

Candice Francis, Molly Rose Teuke, Sonja Williams, and Omar Oliveira: Graduate Students, School of Telecommunications, Ohio University, Athens. Drew McDaniel: Professor and Director, School of Telecommunications, Ohio University, Athens.

interviews--rather than the aggregated results--a total of 148 persons interviewed by the entire research team.

Discussion of the findings of those three preliminary studies will be presented below. Agricultural development activities using the media will be described by the researcher, Molly Rose Teuke, in the first report. Then, a study of the effectiveness of news in communicating to a national audience will be outlined by Sonja Williams. Finally, a discussion by Candice Francis of the current status of television in Belize will be presented.

AGRICULTURAL DEVELOPMENT PROGRAMS ON RADIO BELIZE

Few will argue that mass media cannot serve to inform and educate. The differences of opinion on the matter address the degree of effectiveness and the conditions necessary for effectiveness. The function of informing and educating takes on a new dimension in discussion of developing nations.

Much has been written on the subject, ranging from myth debunking (McAnany, 1978) to recognition of an international locus of influence (Schiller, 1976) and control (Katz, 1979). A shift in the scope of media research reflects a greater appreciation of how complex are the impediments to full use of media's potential (McAnany & Mayo, 1980). This shift is evident in the writings of Hornik (1980), in his practical conditions for more effective use of media in a developing nation.

Finally, it is instructive, if discouraging, the note that "the developing nations have invested little effort in the formulation of explicit policies for relating media to development goals" (Katz & Wedell, 1977, p. 3).

Belize seems a likely place to study the link between media and development goals. Unless the media of Belize are consciously harnessed for development, it seems improbable that they will function to support development goals.

It seems important, therefore, to determine whether Radio Belize is recognized and consciously employed as a development tool, and whether the government has taken steps to measure its effectiveness in this role. To begin to answer these questions, staff members working in one of the centers of development efforts, the Ministry of Agriculture, were interviewed by one of the study team. The discussion in this section focuses on two particular interviews that yielded pertinent information.

One of the interviewees, the Principal Agricultural Officer (PAO), said he was not using Radio Belize as much as he would like because of insufficient staff in his department. However plans for staff reorganization were under discussion. At the time of the interview, a weekly 30-minute agricultural program was being broadcast. It was hoped that by early February, 1983, six weekly half-hour programs would be implemented. The responsibility within this Ministry for agricultural programs is in keeping with Hornik's (1980) admonition that communication on a particular subject will be more effective if it emanates from the substantive ministry rather than an information ministry.

The PAO recognized the need for assessment of the effectiveness of Radio Belize as a development tool. He mentioned that evaluation plans were underway. Two means of gauging effectiveness were anticipated, both of which he hoped would be implemented by mid-1983.

One means will be inquiry by agricultural extension officers in the field as to how much information is being heard and absorbed. The second means will be the establishment of group listening sessions with agricultural extension agents leading discussions and assessing the effectiveness and usefulness of the broadcasts from information obtained at these meetings. Both these steps are in harmony with Hornik's (1980) suggestion that the most effective use of agricultural radio programs occurs in conjunction with extension agent visits.

The second interviewee, in the Ministry of Agriculture, an agricultural economist who is in charge of the agricultural radio programming, provided the following viewpoint.

He said that he had virtually no control over the radio programs because they were produced in studios in Belize City, some 40 miles from the Ministry offices in the capital, Belmopan. The linkage between his programming efforts and the station's production efforts was very tenuous. He was unable to obtain copies of the program scripts and questioned whether they had actually been written.

In our interview, he asserted that part of the problem lay in what he described as "zilch" cooperation from Radio Belize: "They press a record button on Friday afternoon for a half-hour and then press playback on Sunday mornings." This, coupled with the lack of a full-time producer to coordinate agricultural programming and delivery, he suggested, diminishes program quality.

The need for formal assessment of the effectiveness of the radio productions was reiterated: "The stuff is churned out, but attention is not paid to whether it's worth-

while. . . . Radio will not be effective until it is someone's full-time job. It has to stop being a chit-chat show." He was not optimistic about the addition of five new programs: "Isn't it counter-productive to have more bad programs?" He concluded by pointing out the necessity to plan the messages to meet the needs of listening audiences in order to achieve positive results.

These two key officials struck a similar note in citing haphazard development planning and under-utilization of Radio Belize. But while one hoped for more programming to increase effectiveness of agricultural broadcasts, the other official saw the improvement of the programs as a more important goal.

If the views of the persons cited are reflective of the reality in this case, there are obvious questions which require answers: Why is Radio Belize not used more effectively? Is it a lack of political motivation? Is media use too far down the list of development priorities to merit more attention and commitment? Is there too little money? Is there a lack of skilled personnel?

Answers to these questions could not be provided by the research team. More thorough, systematic study is called for in examining such issues, but a tentative conclusion is that despite its potential, radio is not being used as an effective development tool in Belize.

THE NEWS ON RADIO BELIZE

In many Third World countries, the national radio service is presented as the voice of the nation--an electronic connection attempting to link what is typically a geographically and ethnically diverse populace. This is precisely the concept that Radio Belize applies to itself. Its station identification calls its service the Voice of the Independent Central American and Caribbean Nation of Belize. Of particular interest to the research group was the news and information supplied by this radio "Voice." Therefore, the next objective of the project was to conduct a preliminary study of (a) what news and information was broadcast and (b) whether broadcasts met the citizens' perceived needs in the country.

An analysis of the relationship between operation and production focused this portion of the study.

That is, the interaction between the government agencies operating the broadcasting services and the production of broadcasts was the key concern. The previous experiences of the team and frequent accounts in the literature (Lent, 1976; Katz and Wedell, 1977) led to a hypothesis that government involvement in the production and editing of news broadcasts would be high, while listener receptivity to the news would be low. Specifically, it was felt that listeners would be suspicious and critical of news broadcasts, especially of stories about Belize, believing that censorship was being practiced by the government agency.

It was assumed that Radio Belize would be dependent on news services from the industrialized world, such as Associated Press (AP), United States International (UPI), or Reuters. It was then hypothesized that this dependency would lead to inadequate coverage of regional (that is, Central American and Caribbean) news events.

Broadcasts: News and Information

Taken alone, Radio Belize's news and information schedule appears to be diverse and ambitious. News is available during 17 hours of the service's 18-hour broadcast day. Most newscasts are 5 minutes in length and stories appear to represent a wide range of topics. There are, for example, the basic news capsules of the day's events, bulletins of "developments national and international," and retransmissions of the Voice of America and British Broadcasting Corporation (BBC) informational programs.

Three times daily the basic 5-minute news capsule is expanded into a major 10-minute-long newscast. These air at 7:00 a.m., 12:30 p.m., and 7:00 p.m., and are supplemented by sports and weather reports. Immediately following these English programs are broadcasts of the same news in Spanish. Spanish news is also heard at 6:30 a.m., 10:00 a.m., 4:00 p.m., 5:00 p.m., and 6:00 p.m.

Perhaps the most interesting type of information programming is the broadcast of personal messages or announcements. Via this service, one can convey a message to a person anywhere in the country, whether in the same city or in some remote location. These messages are delivered by mail or in person to the Radio Belize studios where staff members assemble them for the daily programs. Information notices that are more general in appeal or commercial in nature are broadcast on a program called "Market Place." This show provides information about local business establishments as well as details of dances, exhibitions, public meetings, and the like all around the country.

Radio Belize also boasts a host of quarter- or half-hour information programs on topics ranging from health and education to agriculture and sanitation. All of these news and information segments are presented in a format which the service's

program director characterizes as "generalized." This style of presentation is distinctly patterned after the British broadcasting model, but incorporates a good deal of imported (mostly American) music.

Broadcasts: Perceptions of Citizens

From the foregoing description, one might conclude that Radio Belize is a source of varied news and information. However, on the basis of listener responses to questions about these programs, a different perception emerges. Through the study's survey, Belizeans expressed strong opinions about the news on their radio service, most of them negative.

Of 24 persons sampled in one of the pilot projects, 13 (54%) were highly dissatisfied with the quality and quantity of radio news, 5 (20%) expressed some reservations about the news, and 7 (29%) thought that Radio Belize was a good news source. Thus, almost three-fourths of the sample was unhappy with information programming on the service.

In the interviews, a number of specific complaints were mentioned. For example, although there were newscasts nearly every hour of the day, the stories and even the order of stories varied little from one newscast to another. Sometimes the major evening news would appear to be little different from the morning presentation. According to the Program Coordinator, Radio Belize was hindered in its ability to update news by its dependence upon news relays of the BBC and the Voice of America. The reliance on the BBC was particularly strong. As the World Service of the BBC updates its stories with less frequency (presumably because shortwave listening occurs in periods usually shorter than one hour), so must Radio Belize. As the Program Coordinator said, "we have nothing better to pull on."

Unlike media in many Third World countries, Radio Belize does not subscribe to any of the international news wire services of the industrialized nations. This is not a conscious political or ideological decision. Rather, these news sources are considered too costly for the limited radio budget. The annual budget for Radio Belize is $715,000 and all but one-fourth of the total is devoted to physical overhead and personnel expenses. A Radio Belize official estimated the potential cost of a news service at between $15,000 and $100,000 each year--much to great an expenditure to be borne by the meager allocation available.

This lack of news diversity was cited by 54% of the sample interviewed in this portion of the study. Many indicated that they listened to other radio stations or shortwave broadcasters as a consequence of this problem.

Another problem cited by survey respondents was a deficiency in the amount of news about Central American and the Caribbean region (51% of the pilot sample). Fifty-four percent of the pilot sample complained of a lack of critical analysis of the significance of international news and its consequences for Belize.

It was commonly believed that the government censored the news heard on Radio Belize. Specifically, 40% of those sampled made this claim. Many accused radio officials of banning news from the opposition party or news which reflected adversely on government activities. It was observed by the study group that national news was, in reality "official" news. In all major newscasts the first two to four minutes were usually devoted to national news, mostly about government programs or personalities. Shorter newscasts followed a similar pattern, although international stories or non-governmental events took precedence at times. News of Central America or the Caribbean generally followed the international stories.

Radio Belize officials deny the existence of any government interference in the coverage or reporting of news, despite the fact that the Ministry of Defense and the Home Affairs Department of Information are the major sources of national news for the broadcasts. It is undeniable that much of the news carried by the broadcaster originates from governmental offices. The effect of the government on radio programs is evident in other ways as well. For instance, while the schedule has changed little in the months since independence, the few new programs include such politically oriented shows as "In Government" and "The Challenging 80's."

The dissatisfaction noted among respondents was not limited to news programs. Many interviewees felt that other informational programs were under the dictates of the government as well. Agricultural shows in particular, were believed to be more "propaganda tools" than useful sources of information.

In the aggregate, among all those interviewed by the entire research team, the need for an additional radio service was noted by 67%, mostly due to perceived shortcomings in the news services of Radio Belize.

According to the findings of this portion of the study, neither of the previously-mentioned hypotheses about news could be rejected. The organization of Radio Belize's news service and the content of its news suggest substantial involvement of government ministries and officers, though no evidence to suppport outright censorship was found. Nonetheless, many Belizeans were

suspicious of radio news, feeling politics played a major role in shaping news programs.

TELEVISION IN BELIZE

The purpose of this portion of the project was to study the implications for this small nation of a confrontation with Western culture, transmitted through the television medium. The survey instrument contained several items that probed attitudes toward the newly-arrived medium.

A 1982 Los Angeles Times article reported that televison has come to Belize, and continued to describe it as a "funny" kind of television. This accurately describes the phenomenon of TV in the country, which both is, and is not, really there. While the government has sanctioned the importation of television transmission equipment, the transmission of television programs remains unlicensed and, therefore, illegal. A campaign pledge by the ruling party in the last general election to bring national television to Belize by 1984 remains unfulfilled. In at least two cities entrepreneurs have established unofficial stations and have begun operation by retransmitting shows relayed by satellite from the United States.

An enterprising Belizian started his business by purchasing a satellite dish antenna two years ago. In his back yard he started a television program cassette business, recording programs received from satellite, then renting the video cassettes to the numerous video recorder owners in the city. A year later, he financed the construction of a broadcasting tower and bought transmission equipment so that others, for a subscriber fee, could directly receive satellite retransmissions from Home Box Office, WTBS, (channel 17 in Atlanta), and other U.S. services.

Beginning by renting video cassettes, another entrepreneur later established "Tropical Vision," on a television transmission service. The bulk of "Tropical Vision's" program content come from WGN Channel 9 in Chicago. A television viewing guide published in several Belizean newspapers lists such program as "Barney Miller," "The Jeffersons," "Pro Boxing," "Charlie's Angels," the NBA All-Star Game, and weather reports from the "Windy City."

According to the results of this portion of the study's survey, public reaction to the unlicensed TV services was generally enthusiastic, although the potential effect worried some. Twenty-two, or 91% of those interviewed on this subject, favored the advent of television. Many remarked that it should have been implemented in Belize long before. Among those advocating TV in the country, favorite shows included "Good Times," "The Jeffersons," and the news. Still, some saw it as potentially evil and distracting. An older woman in Corozal complained that there was "too much crime and bloodshed on TV." Another woman in Belize City felt television portrayed "too much sex" and feared the impact such programs would have on Belizean society. Among the 24 persons surveyed on this issue, 19 persons (79%) also believed it would be a good idea to have locally produced programs, but questioned the ability of national broadcasters to create programs of professional quality, given the probable scarce resources for such endeavors.

Many of the troubling aspects perceived in the introduction of television centered on its impact on children. One Belize City resident, a parent of several children, felt that television was having a negative influence on his children's study habits, encouraging them to read less than before TV's arrival. Another parent expressed a reluctance to adopt television because she felt it was detracting from the time her family spent together each evening.

To summarize, while television seemed to be eagerly anticipated and, where available, accepted with widespread enthusiasm, many were cautious and concerned about the impact it might have on Belizean children, families, and society.

Television in Belize faces an uncertain future. The present arrangement of informal rebroadcasting is facing mounting pressure from several directions. As unauthorized users of the television programs, the stations are accused of being in violation of copyright agreements by the U.S. television satellite services. As the stations have no formal license or authorization from the government, they are technically in violation of international agreements on frequency allocation. The stations deny that they are "pirate broadcasters," as some have claimed, and point to the import authorizations issued by the government for their transmitters as proof of their legitimacy.

The government does face a dilemma in choosing a course of action at this time. Since the government still lacks the ability to construct a TV service by the 1984 deadline, the unauthorized stations have become, in effect, a substitute for the promised government network. Any action against the unauthorized stations would increase pressures to activate an official service, so this route presumably has little appeal for government officials. Futhermore, any serious effort to interrupt television programs watched on a claimed 12,000 sets around the country would undoubtedly elicit, according to one Belizean from Dangriga, "serious

political repercussions" from people who have grown accustomed to this entertainment medium.

FINAL COMMENTS

The findings in this survey are tentative at best, for they are merely the results of preliminary surveys. The conclusions do tend to echo the results of other field research on these subjects, and this may lend them additional credibility. But the researchers feel it important to observe the long-term trends in media development and in the social consequences of media expansion. It is intended that preliminary findings noted here lead to additional work in Belize in the years ahead. Further involvement of Belizeans in study design and the collection and analysis of data is an additional objective. Perhaps through observing the process carefully in Belize, insights into the lost history of media development around the world may be gained.

REFERENCES

Central Planning Unit. *Abstract of statistics*. Belmopan, Belize: Government Printery, 1981.

Hornik, R. Communication as Complement in Development. *Journal of Communication*, 1980, 30(2), 10-24.

Katz, E. & Wedell, G. *Broadcasting in the third world*. Cambridge, Mass.: Harvard University Press, 1977.

Katz, E. With what effects? The lessons from international communication research. In Merton, R., et. al. (Eds.), *Qualitative and quantitative social research*. New York: The Free Press, 1979.

Lent, J. Caribbean press hemmed in with controls. *IPI Record*, 1976, 25(7).

McAnany, E. Does information really work? *Journal of Communication*, 1978, 28(1).

McAnany E. & Mayo, J.K. *Communication media in education for low income countries: Implications fo planning*. Paris: UNESCO, 1980.

Schiller, H.I. *Communication and cultural domination*. White Plains, NY: M.E. Sharpe, 1976.

Setzekorn, W.D. *Formerly British Honduras: A profile on the new nation of Belize*. Newark: Dumbarton Press, 1975.

Letters from Teachers: A Report on the Feedback from Participants in the Radio Based Teacher Training Project in Nepal

KATHLEEN GOODMAN, RAJARAM SHRESTHA, RAMESWOR SHRESTHA, SUSHILA SHARMA, AND PREM CHITRAKER

Active audience participation is generally considered both to contribute to and be a measure of success in mass communications projects. Without early input from prospective listeners, writers are pressured to develop an effective set of broadcast materials on the basis of necessarily incomplete formative evaluation data, pilot year experience, and field research information. Without audience participation, studio staff members cannot respond effectively to changes in the make-up or interests of their audience. Without feedback, writers, producers, technicians, and actors are simply sending the products of their hard work onto the airways with no notion of the impact or effectiveness of their broadcasts. This issue is especially important in the case of education projects that use mass communications techniques. In education projects, participation by listeners is more than an indicator of project success, it becomes (or should become) an objective within that project.

Providing active feedback to program developers is not a skill that one can assume is present in the repertoires of the individuals who constitute the audience of most mass communications projects, particularly those in developing countries. Becoming actively involved in the planning and implementation of one's own training program is one aspect of learning to plan and to control one's own environment, which is probably the fundamental goal of all education projects.

It is desirable that education project planners in developing countries create learning situations within their project designs to promote this skill. This is also true, but particularly difficult, in educational projects involving mass communications, where project designers and implementers are rarely able to establish direct contact with their intended participants.

THE RADIO EDUCATION TEACHER TRAINING PROJECT

The demand for education in Nepal is increasing. In 1951, there were 320 schools and 8,500 students. In 1981, there were more than 12,000 schools and more than one million children enrolled. It is not possible for the teacher training institutes to train teachers fast enough to meet the demand, even if untrained teachers could meet the entrance requirements or if the Ministry of Education and Culture (MOEC) had funds to hire substitute teachers.

The solution to this problem has been provided through a radio based distance education project, the Radio Education Teacher Training Project (RETT). This Project is sponsored by the United States Agency for International Development, His Majesty's Government of Nepal's (HMG) Ministry of Education and Culture, Radio Nepal, and HMG Institute of Education. The RETT Project is being implemented by these agencies with technical assistance from Southern Illinois University.

The Radio Education Teacher Training Project has attempted to incorporate listeners into the project design. Many of the 6,000 teachers involved in the program are living and working in the most remote areas of this tiny mountain kingdom. The participants have had no previous teacher training and limited formal education. They have few resources, working with extremely small school budgets and salaries of around $120 per month. Most participating teachers live more than a day's walk from a road and many must walk several weeks from a road to reach their villages. They rarely have electricity; and newspapers, books, and telephones are virtually nonexistent in the rural areas where 97% of the population lives. Individuals from the district education offices may visit the schools only once or twice a year.

Kathleen Goodman: Assistant for International Development Office of International Education, Southern Illinois University. Rajaram Shrestha, Rameswor Shrestha, and Sushila Sharma: Writers, Producers, and Teacher Educators, His Majesty's Government of Nepal, Ministry of Education and Culture. Prem Chitraker: Assistant, Vice Chancellor's Office, Tribhuvan University, Kathmandu, Nepal.

The teachers participating in the RETT Project are extremely isolated. The Project began in 1978 and by June of 1984, 6,000 underqualified rural teachers will have completed the 10-month training program. It has two general goals:

1. To ensure that primary school teachers enrolled in this program have the academic skills specified in the primary school curriculum and the teaching skills to implement them in their classrooms.
2. To ensure that primary school teachers involved in this project have the skills to act as change agents and to address critical issues in Nepal's rural development programs as a part of their classroom instruction and in daily discussions with members of their villages.

To accomplish these goals, RETT has turned to radio programming and written support materials. Lessons are transmitted from the studio offices in Kathmandu to teachers listening in their homes in distant mountain villages. Receivers are provided by the Project, and instruction on radio operation and maintenance is provided by district education officers at the beginning of the 10-month training program. This is a critical component of the training since 83% of the enrolled teachers have never owned a radio before.

TEACHER PARTICIPATION IN PROJECT DEVELOPMENT

One of the most challenging tasks to face Project staff was developing methods to get participating teachers actively involved in the design and ongoing development of broadcast materials. The 6,000 teachers participating in the RETT Project are at the very lowest rung of the Ministry of Education and Culture hierarchy. They generally have only temporary positions and their salary is only slightly higher than that of the "peons" who are hired to help clean the school buildings.

The RETT teachers are principally responsible for implementing primary school lessons provided by the Ministry of Education and Culture. They generally have had no experience with the development of educational training programs, or with government planners, or with high level ministry officials of any sort. For most teachers, this has been their first experience with a government "development project" and their first opportunity to develop and exercise the skills necessary for successful participation in this type of experience.

Nonetheless, these teachers were in the best position to identify their training needs and priorities and to identify successful program styles and teaching formats. Their ability to guide program developers effectively was and is key to the sucess of the project.

It is easy to talk about the importance of integrating participants into project development and one can always point to less successful projects and recognize the absence of this critical project component. Yet, little information is provided about how to accomplish this difficult objective. Integrating participants into a radio based instructional program like RETT was particularly difficult since few enrolled teachers would ever have an opportunity to meet with RETT Project staff.

Receiving suggestions and criticism from participants was deemed critical to the effective operation of all phases of the Project. Thus, a third project goal was adopted: establishing a set of conditions within the operation and design of the proj-ect that would encourage active participation by teachers in the design and implementation of the training program.

At this point, the problem was developing a learning environment in which teachers would provide input to project designers in the initial phase, and then ensuring that feedback would be encouraged and reinforced during later stages. To establish these conditions, Project staff spent a great deal of time in the field during the initial stages of the Project, walking to remote villages and visiting teachers in their classrooms. Specifically, field activities included one year of informal field testing with rural teachers, including interviews, classroom observation, and listening and reading inventories.

A second method that was used to increase teacher participation was a 1-year pilot program. During this phase one hundred teachers participated in five districts across the country. Project staff met with pilot year teachers every two months to evaluate the effectiveness of the broadcast materials, solicit suggestions and criticisms, and gather original program materials and questions to include on the air. This last component may have been one of the most critical components of the pilot year phase, and we'll return to it later.

A final strategy was the development of a reading group of 10 primary school teachers similar in many ways to the teachers who would participate in the training. These 10 teachers met with Project writers once a week to try out lessons. The teachers would listen to a tape of a potential broadcast and study the writtten materials which were to accompany the broadcast. When they completed that portion, the teachers would try to implement the suggested instructional methodology or new content in their classrooms while writers observed them. After

this, writers and teachers would sit together and discuss ways that the lesson could be made clearer or consider problems with the implementation of the lesson.

This process resulted in a unique lesson style. The broadcast style was generally conversational, often drawing on the form of interaction between the writers and the reading group teachers. The radio actor-teacher sometimes criticized teaching methods, expressed frustration with classroom conditions, and actively solicited suggestions from actor-teacher educators. The style of the lesson was very informal, with simple vocabulary and colloquial language.

The objective of the initial phase was to create a radio model that reflected the type of participation RETT staff hoped to establish with participating teachers. In addition, efforts were made to ensure that the language and situations were familiar to the rural teachers. The radio teachers were to be just like them, facing the same problems and frustrations that the rural primary teachers faced daily in their classrooms. The initial vignettes were collected during the field research and possible solutions were developed. Thus, the basic format and model for the lessons was established. However, additional materials and the fine tuning of potential strategies had to be accomplished with feedback from teachers in the next phase of the Project.

ONGOING FEEDBACK FROM TEACHERS ON PROGRAM IMPLEMENTATION

How to get feedback from teachers was the problem that Project staff faced as the RETT Project progressed out of the initial development stages. Feedback from teachers would be needed for the maintenance, revision, and updating of broadcast materials. To collect this feedback, writers considered the usual type of program evaluation strategies: more interviews, classroom observation, and tests. However at this point, writers received an unexpected windfall. Unsolicited letters from participating teachers began arriving steadily at the studio office in response to the broadcasts. The RETT writers have been able to turn to these letters for ideas and suggestions for improvements in the ongoing broadcasts.

Initially, the teachers contributed things they had written: songs, poems, or stories. Samples of these had been collected from pilot year teachers and members of the reading group. They were aired on the radio during a short 8-minute segment called the "Teacher's Corner," once each week. The segments were played, no matter how weak the presentation, and the names of the contributing teachers and their schools were mentioned on the air. Soon the teachers started sending in other materials, questions, problems, criticisms, and suggestions. The "Teacher's Corner" grew to two 18-minute segments per week. Writers answered as many questions as they could, but always mentioned the name of each of the teachers (and their schools) that they had received letters from during the previous week. And the letters continued. After awhile, the producer of this segment was unable to keep up with the letters and was forced to request that teachers write only if they had critical questions directly related to their training program. And still the letters came. Staff members were astounded by their success at encouraging teacher participation.

LETTERS FROM THE TEACHERS

To appreciate the significance of this event, one must understand how difficult it is for a rural teacher to mail a letter. First, primary school teachers do not write well. There is little opportunity for them to practice writing in their villages. With literacy rates under 20%, there are few people in Nepal to whom a primary school teacher could send a letter. Second, paper and envelopes are readily available and stamps can only be obtained in a district center. The trip to the district center is often difficult and teachers rarely undertake the 2- or 3-day walk from their villages to travel there. During at least three months of the year, the trails are impassible and the trip becomes impossible. It is quite common for teachers to travel to the District Education Office only once or twice a year to pick up their teaching salaries, even though the salaries would be available monthly.

When a letter reaches the district center, it must be delivered to the nearest airport or road. It is then carried to Kathmandu. (However, most rural airports are only served by planes once per week, if the weather is good enough to fly. During the 3-month rainy season, planes cannot fly at all and most of the roads are closed.) After reching Kathmandu, mail is deposited with varying reliability in the recipient's post office box. Given all of these constraints, you can well imagine that Project staff were completely overwhelmed, when at the completion of the first full year of broadcasting with 1,100 teachers enrolled, RETT staff had receved 782 letters!

These letters were analyzed to determine where the teachers who had provided

feedback to Project staff were living. A description of the geogrpahic distribution of letters received and the percentage of enrolled teachers from that region during the same broadcast year is provided in Table 1.

Table 1. Percent Letters Received from Teachers by Development Region and Total Teachers Enrolled by Development Region 1981-1982

Development Region	Total Letters Received from Teachers	Total Teachers Enrolled
1. Eastern	19.9%	23.7%
2. Central	38.9%	34.0%
3. Western	18.5%	15.9%
4. Far Western	22.8%	26.5%
Total	100.1%[a]	100.1%[a]

[a]Due to rounding.

The geographic distribution of letters received seems to parallel the geographic distribution of teachers enrolled in the Project during 1981-1982. Letters were also analyzed to determine if correspondence was received more frequently from teachers living in the district centers. Surprisingly, only 3% of the letters received came from the teachers who lived in the capitals of their districts. While it is true that the majority of enrolled teachers are living in rural villages, not in the district centers, it is encouraging to note that letters reflect this distribution. The correspondence did not come exclusively from teachers for whom mailing a letter is relatively easy. Teachers apparently were able and willing to travel the distance necessary to mail their letters. A complete table of this distribution is included in Appendix A.

The RETT staff then undertook to learn as much as they could from the feedback provided by the letters. A content analysis of the letters was done to determine the issues that provided an impetus for teachers to write to RETT project staff. If the staff could understand the factors that caused the teachers to write to the RETT studio, they could more effectively encourage continued participation. It would also enable program developers to anticipate future correspondence and devise new programs to accommodate these interests. Each letter was analyzed and the type of comment(s) it contained was assigned to a category. If the letter contained more than one type of comment, it

Table 2. A Description of Letters from RETT Teachers, 1981-1982

Type of Comment	Frequency of Comment[a]	Percentage of Letters[b]
1. Requests to repeat broadcast	46	6%
2. Questions about information included in nonformal magazine program	23	3%
3. Questions about information included in formal portion of program	120	15%
4. Question about education information not included in RETT broadcast	5	1%
5. Comments on formal portion of program:		
praise	54	7%
changes suggested	19	2%
6. Comments on nonformal magazine program:		
praise	31	4%
changes suggested	13	2%
7. Sent original writings to include in magazine program	154	20%
8. Comments on RETT training format:		
praise	66	8%
changes suggested	203	26%
9. Procedural questions	271	35%
10. General questions about educational system	86	11%
11. Questions about topics completely outside RETT programming	23	3%

[a]Lists the number of letters which included this type of comment.
[b]Includes the percent of total letters which contained this type of comment. Since letters could contain more than one type of comment, this category will sum to more than 100 percent.

might be counted in several different categories. However, one letter could not be counted more than once in the same category. A breakdown of this analysis is provided in Table 2.

The largest percentage of letters contained procedural questions. These were questions such as the following: "When will the final examination be conducted," Where can I get extra copies of the self-instructional materials," and "My radio was buried in a landslide. Can I get another one?"

The second most frequent category consisted of comments on RETT training formats. This category included comments such as: "I have not received copies of my self-instructional materials. Please send them to me," or "The radio transmission is not clear on shortwave band 90." The number of letters in this category may be somewhat inflated. There was an accident on the road to one of the remote districts, and a truck carrying self-instructional materials for the teachers participating from that area was overturned. Consequently, the materials reached teachers from that district quite late. Approximately 80 of the letters in this category included questions and comments related to this problem.

The third largest group of letters included materials that teachers wished to have broadcast in the nonformal magazine portion of the program. Many teachers sent poems, song, plays, riddles, or information on their schools or communities to include in the magazine program. Samples of a few of these wonderful items are included in Appendix B.

Finally, a large number of letters fell into categories that included questions from the field of education, either related to the formal segment of the broadcast (15%) or to the field of education in general (11%). Comments and questions about the nonformal magazine program were low (3%, 4%, and 2%). The small number of letters directed to this category may be the result of requests from the overwhelmed producer of this segment to limit questions and comments to issues that were very important to the sender. The producer of this segment had been unable to keep up with the large number of letters that were coming in; he was receiving angry letters from teachers whose questions has not been answered.

WHAT WE LEARNED FROM THE TEACHERS

The extensive feedback from participating teachers, provided two different types of information to Project staff. First, writers and program developers could identify and resolve specific problems and questions teachers had regarding RETT broadcasts and procedures. Often, information could be provided or corrections made within a week or two of the date the letter was received in the RETT studio. For example, one teacher was having difficulty recruiting children to come to school. A previous program segment had suggested that teachers should actively recruit children to attend school. However, parents told the teacher that if he wished to take the children from the fields to attend school, then someone would have to reimburse the family for the child's labor. Suggestions were provided to the teacher during the following week's broadcast.

Many teachers were concerned about the examination that would be given following the completion of training and what would happen to them if they failed to pass the exam. Procedures, and opportunities for remediation, were explained again and again until the number of letters received with questions on this topic was greatly reduced.

The second type of information the Project staff was able to obtain through letters from their listeners was even more valuable than that described above. The feedback provided Project staff the opportunity to track the teachers' progress during the 10-month training period. For example, questions about recruiting new primary school students suggested that some teachers really were attempting to use methods suggested in a lesson on that topic and might benefit from more information on working with parents. How complex the information in that lesson could be, and what issues it should address, might also be suggested by information provided in the letters. In addition, more general information could be obtained, such as which local development issues were of most interest to teachers, and how they felt about the sequence on women's literacy or the programs on population education or agriculture. This feedback was used to develop new programs and to improve training procedures.

Finally, the letters provided an opportunity for Project staff to develop a relationship with participating teachers. By responding to as many letter as possible, RETT staff were attempting to teach the participants that taking an active role in their training could have a beneficial result for themselves and their fellow teachers. Even people living in isolated villages far from the capital could influence the activities of government officials and programs. Obviously, this was not only a skill that was important for the RETT Project to teach to participating teachers, but also one that staff might wish to have them teach to the children in their classrooms. Many of the development projects established by His Majesty's Government of

Nepal focus on strategies to increase the participation of rural villagers in government programs. One could begin to observe this in action as teachers asked questions regarding their pensions and about the fate of the untrained primary school teachers under new government policies.

STRATEGIES FOR FUTURE PROGRAMS

Today, RETT Project staff continue to receive letters from participating teachers. Approximately 2500 teachers are enrolled in the current 10-month training cycle and 25 to 30 letters are received each day in the studio office. As larger numbers of letters are received, Project staff will be increasingly able to rely on this feedback for developing new program formats. Experimental broadcasts for new training programs will include 1-hour broadcasts built entirely around letters from teachers. One type of broadcast will suggest topics to teachers one or two months before the program is aired. Letters from teachers related to that topic will be collected and included in a 1-hour broadcast. Topics that are being considered include, "working with handicapped children in your classroom," "safe methods of storing seeds," and "how to get a water supply system for your village." The RETT staff will also continue to include original writing from teachers and will mention on the air as many as possible of the teachers who have sent letters and the names of the schools in which they are teaching.

Project staff members have been pleased with the level of participation they have been able to achieve with their listening audience. Keys the success of this program were establishing a learning situation that encouraged participation, personally collecting initial materials from teachers during field trips and broadcasting these over the air, and responding to ongoing correspondence as quickly and completely as possible. Radio Education Teacher Training Project staff continue to develop new program formats that are built around teacher feedback and to encourage increased participation in future broadcasts.

APPENDIX A

A description of the Geographic Distribution of Teachers
Writing Letters to RETT Staff During 1981-1982 Training Cycle

Zone	District	Number of Letters
Eastern Development Region		
Mechi	Taplejung	26
	Panchthar	30
	Ilam	21
	Jhapa	4
		(81)
Koshi	Morang	(16)
Sagarmatha	Okhaldhunga	(14)
		Region Total 111
Central Development Region		
Janakpur	Dolakha	39
	Ramechhap	2
		(41)
Bagmati	Kathmandu	24
	Nuwakot	27
	Dhading	30
	Kavrepalanchok	67
	Sindhupalchok	14
		(203)
Narayani	Makawanpur	(14)
		Region Total 217
Western Development Region		
Gandaki	Kaski	2
	Gorkha	7
	Syangja	15
		(24)
Lumbini	Gulmi	37
	Palpa	25
		(62)
Dhawalagiri	Mustang	9
	Myadgi	8
		(17)
		Region Total 103
Far Western Development Region		
Rapti	Rukum	30
	Rolpa	22
	Salyan	17
	Pyuthan	4
	Dang	11
		(84)
Bheri	Surkhet	(26)
Karnali	Jumla	(17)
Seti[a]		(0)
		Region Total 127
Grand Total Number of Letters Included in This Appendix[b]		558

[a]No teachers from this district were enrolled during the 1981-1982 broadcast year. Teachers from this district first joined the training program during the 1982-1983 broadcast year.

[b]One packet of letters was lost in shipment to the United States where this portion of the report was compiled. Consequently, the number of letters included in this section was smaller than the number which was used for content analysis. However, there is no reason to assume that the loss of those letters differentially affects the distribution of this sample.

APPENDIX B

These are samples of the 782 letters, stories, poems, and songs that we received from our 1117 teachers during the 1981-82 training program. We try to answer these each week during our Teacher's Corner Magazine Program. This year (1982-83) we have 2,500 teachers enrolled and we are receiving 20-25 letters per day. The response to RETT programming has been incredible!

RETT
All Members of this family, HELLO...

...the magazine program is very interesting. All the items of the magazine program should be printed and distributed to all the teachers participating in the training program.

Acting Head Master
Surendra Prakash Giri
Primary School Kewari
Eriwang, Rolpa District

Training Chief:

This teacher's training program is very interesting and useful too. This training has helped us to teach the student effectively. But the parents of the students are very peculiar. In Mathematics lessons, you have suggested that we use stone pieces to teach counting. When I used this method in the classroom, the parents of many students came to me with angry words. They criticized me for using the stones. They said that stone pieces cannot be the right materials for teaching. How can I deal with such parents? Please help me?

Prem Narayan Aryal

2038-10-29

I was admitted to school at the age of 7. At that time I was unaware of the importance of education. I always deceived my parents and teachers. Even then I reached class 10 and in that class I was failed. Because I was failed in 2027, I became a Primary School Teacher. At that time I only earned 35 Rupees per month, but your radio broadcast opened my eyes. I now realize the importance of education. I have the opportunity to listen to your broadcast and to be a participant in your program. What will be the result, I don't know.

Tara Bahadur K.C.
Banjhakateri Primary School
Purkota, Gulmi District
Lumbini Zone

Dear Sir:

Can I continue to write to you and ask you questions even after I complete my training program?

Dal Bahadur
Rastriya Lower Secondary School
Bhalchowr, Phandu
Salayan District

I am a participant in your program. I am trying to teach in my classroom as I am learning in your training. But you do not broadcast on Fridays and Saturdays. On those days I feel very much discomfort. I wish I may hear this program all seven days in a week. Can you arrange this?

Keshav Bahadur Karki
Menendradaya Lower Secondary School
Mati, Dolakha

Director
RETT
Patan Dokha

...I have heard that radio is a teaching aid (means of education). Since I am included in your radio program and I have received a radio I hope you will let me keep it forever, so that I can continue to learn.

Ramashawn Thapa
Sre Kamada Devi L.S.S.
Kopusi Village
Kavari

RETT

Subject: Include me in examination

I was appointed as a teacher in 2035-1-5, but I was not included in your training program. I also did not get your radio, but I am very much interested in your program and want to be included in the examination. Listening to my own radio, can I be included in your examination? Can you allow this?

Bishnu Prasad Nepal
Januta Primary School
Lalpati, Madi
Pokora Thoka, Palpa District
Lumbini

1. For how many years will this teacher's training program run in Nepal?

2. We want to see all of you face to face. Can we see you if we come to P.O. Box 2145?

Ram Chandra Pradhan
Biraba Primary School
Kavari

Before I joined this training program, I had heard of a lesson plan, but I didn't know what it was. Now I have learned what it is and why it is important. I want to implement it in my classes. However, there are three classes in my school and I am the only teacher. What can I do?

Dharamrag Thapa
Srijana Bekasha School
Lantang, Dharcha Palpa
Lumbini Zone

RETT:

I am very much curious to know about the character Rameshji who speaks in Education. Kindly tell me his address.

Durg Bhadudur Basnet
Primary School Disuntole
Dolkhar, Janakpur

Section Office of Branch RETT Program
Radio Nepal
Singha Durbar
Kathmandu

Subject: Please send me the Self-instructional Materials

I am teaching in Kiran Primay School, Ghlekharka. And I am a participant in your training program.

My house caught fire at about 11:30 p.m. at night on 2038-7-10. I was able to save only the radio, and a few other possessions, but I was unable to save my self-instructional materials. It is very hard for me to understand all the things you teach, listening only to the broadcast.

I request please send me another copy of the self-instructional materials if you can.

Mana Bhahandur Ghali
Ghlekharka, Kaski District
Gandaki Zone

Dill Bahadur Gurung
Sri Jana L.S.S.
Rapakot, Chyanja District

...I have lost all of my SIM materials. My home is near the school and the students used to come by my home. I think the students have stolen my self-instruction materials. Now what can I do without self-instruction?

Family Planning Education in Developing Nations

LYNDA C. HARRIMAN

Family life education, with emphasis on family planning, is an integral part of larger scale social and economic development programs in many developing nations. According to Paolucci, Bubolz, and Rainey (1976) population management is critical today due to increasing expectations for better lifestyles, while shortages in resources for survival, including food, energy, and space also increase. Since the family is still the major unit for reproduction in most societies, the central aim of many population management programs is to bring about a change in attitudes. Specifically, programs attempt to change attitudes toward the role that children play in the family, so that a small family size will come to be desired and accepted as the normal way to achieve other social and economic development objectives.

By 1975, the developed nations comprised 28.5% of the world population as compared to 34.3% in 1950; whereas the less developed nations made up the remaining 71.5%, as compared to 65.7% in 1950 (Okobiah, 1981). Today the less developed countries contain three-quarters of the world's population. Population size, coupled with the relatively low per capita GNP for less developed nations, has serious implications for the individual, family, and social welfare of people in those nations. Birth rates have declined in the less developed countries, and some people credit national family planning programs with strengthening this decline.

APPROACHES TO FAMILY PLANNING

Medical Center Approach

The medical center approach was the first major delivery system for making family planning services available to individuals in developing nations (United Nations, 1976). Services were made available through voluntary organizations, usually health clinics. This approach of providing strictly family planning services, with no counseling or education, proved relatively ineffective. Without counseling and education, even those who readily accepted contraceptives were unable to make the most effective use of them and to understand or alleviate undesirable side-effects. Dropout rates were high. In addition, it was discovered that those who did not readily accept contraception required different levels of information and education than did early adopters to make use of family planning services. As a result, the strict medical center approach has been modified to incorporate family planning education in some countries.

This modified approach has been instituted by the Lagos, Nigeria, Family Health Clinic to meet maternal and child health and family planning needs of the residents of a low income section of Lagos (Bamisaiye, DeSweener & Ransome-Kuti, 1978). The clinic provides education as part of the preventative and curative care package. Maternal education was added first, but proved to be insufficient in promoting widespread family planning practices, due to the generally unfavorable attitude of men in Southern Nigeria toward family planning and the degree of male domination in the culture. Consequently, the unique development communication strategy employed by the clinic was the formation of a Father's Club to gain fathers' support for the clinic's program. Monthly meetings provide a forum for fathers to vent their anxieties and criticisms and offer suggestions about clinic programs. Efforts have been made through the Father's Club to alleviate concern in the men's minds regarding a perceived relationship between modern contraception and female promiscuity. Another goal is to help fathers see a relationship between modern contraceptive use and the health of mothers and children.

Human Rights Approach

The human rights approach, a second approach to family planning, has been espoused mainly through the efforts of the International Planned Parenthood Federation,

Lynda C. Harriman: Assistant Professor of Home Economics Education, Department of Vocational and Technical Education, University of Illinois at Urbana-Champaign.

a nongovernmental organization which has united many family planning associations throughout the world (Burke, 1970). The underlying premise of the human rights approach is that knowledge of, and access to, family planning methods is a human right that all couples should have so they can avoid unwanted pregnancies and unwanted children.

Population Growth Limitation Approach

As leaders of developing nations have come to see the relationship between national economic development and population control, the population growth limitation approach has arisen (United Nations, 1976).

The population growth limitation approach calls for development communications directed toward fertility control, with the objective of attaining predetermined rates of growth.

The People's Republic of China has established a national policy emphasizing the population growth limitation approach to family planning. Through a range of incentives or disincentives, mainly financial, the Chinese goal is the one child family (Clinton & Baker, 1980). Material rewards, housing and employment guarantees, plus educational opportunities for children are among the incentives used to achieve this goal. Family informational programs also are used to promote interest in and positive attitudes toward the goal.

Social Development Approach

Another approach, the social development approach to population control, uses family planning as one means to achieve a variety of social development objectives, including improved maternal and child health, improvement of women's status, and reduction of illegitimacy and illegally induced abortion. The theory here is that the possibility of attaining developmental objectives is enhanced when individuals experience a degree of well-being and self-determination brought about through knowledge of, and access to, family planning methods.

Examples of development communication strategies are common among developing nations committed to the social development approach to family planning. Mass media, for example, have been used widely in disseminating family planning messages in Indonesia (United Nations, 1976). Articles in newspapers, periodicals, and pamphlets are common. In addition, messages are transmitted via billboards, exhibitions, radio, film and television. Indonesia has also made use of traditional media to reach local audiences. These include traditional cultural ceremonies, plays, folk songs and dances, as well as public addresses to encourage family planning.

> South Korea, Taiwan, Singapore, and Hong Kong, with rapid industrial development, as well as family planning efforts, have halved their birth rates in about 20 years. And more recently established programs, such as those in Thailand and Indonesia, are moving with similar speed, mostly as a result of efficient drives for contraception. (Keeny 1978, p. 253.)

Thailand's social development approach to family planning activities, conducted under the auspices of the Information-Communication Unit, also includes the use of mass media, communicating family planning information through literature, such as posters and pamphlets, and audiovisual materials. Mobile and stationary motivation teams are perhaps Thailand's most important development communication resource. By the end of 1980 mobile teams reportedly reached 170,000 persons in 15 provinces. Stationary teams in various provinces are reported to have reached even more people (Varakamin, Klinshon, Devaphalin & Narkavonnakit, 1980). Unit personnel who make up the teams hold group educational meetings. During these meetings both family planning films and entertainment films are shown. Meetings are often held right in the workplace.

In Singapore, special messages on postponing marriage and childbearing designed to reach young people are broadcast on radio and television and carried in newspapers. One such message is, "Take time to say yes...to marriage, to having your first child and your second. A happy family is worth waiting for" (Loh, 1978, p. 246-247). In Hong Kong, an important family planning educational effort was the creation of two characters "Mr. Family Planning" and "Mr. Vasectomy." These characters were brought to life through comedy sketches performed throughout Hong Kong by popular television actors (Lam & Berry, 1978).

In South Korea a governmental program is providing family planning education as an integral part of child day care services. The Integrated Day Care Program (IDCP) was initiated by the government in government-sponsored day care centers set up primarily to reach low-income families with working mothers throughout rural and urban Korea. Informal classes in family planning and nutrition for mothers were taught by nutritionists trained in family planning. The goal of the IDCP's family planning education program was to increase the practice of contraception so that the number of unwanted

pregnancies would be reduced and the length of birth intervals increased. Data has been collected from IDCP mothers and from non-IDCP mothers (Sung, 1978). The findings showed that the family planning component of the day care program was well accepted by IDCP mothers and that they ad high levels of family planning knowledge, more favorable attitudes, and higher levels of practice than did non-IDCP mothers. This program demonstrates an innovative development communication strategy for family planning education.

Another program using the social development approach to population control has been devised by the Philippines Ministry of Health's National Family Planning Office. This program uses community resources, mainly local leaders, to assist people to identify their own family planning needs and find ways and means to meet them (Concepcion, 1980). The local leaders used are mostly housewives. The Family Planning Organization of the Philippines is responsible for the overall implementation of the pilot program initiated in 1979, including training of the local leaders. At the end of six years, it is hoped that the majority of the adult population in the pilot areas will have been thoroughly informed and educated about family planning, as well as health related concerns. In addition to the work of the local leaders through personal contacts, mass media has been a part of the program providing intensive information and educational motivation campaigns on family planning.

The Jamaican government passed a National Family Planning Act in 1970 bringing about multidisciplinary family planning efforts. For example, family planning is now a component of on-going family-life education programs conducted by the YMCA and the Youth Development Agency of Jamaica (United Nations, 1976). Further, labor leaders from the Sugar Industry Labor Welfare Board have used some of their meetings and personal contacts in communities as a forum to discuss family planning concepts.

Family planning and programs in family life education are also included for young people in Jamaican child-care institutions and in youth camps. The curriculum includes such topics as venereal disease and sex education. Public health inspectors, nurses, probation department officers, 4-H clubs, and ministers of various religions are also involved in promoting family planning.

Another example of the Jamaican multidisciplinary approach to family planning education is illustrated by the work being conducted in a number of districts. In the St. Ann Parish, for example, both private and public agencies have joined together to form the St. Ann Family Improvement Circle. One objective of this organization is to develop a coordinated approach to family planning in this district. Another objective is to disseminate information on "family improvement" and to stimulate interest in the National Family Planning Program. Toward this end, the organization has arranged a series of training seminars for its officers and has sponsored and developed a "Family Improvement Week" in the parish (United Nations, 1976).

I have shared with you examples of some specific development communications strategies used to promote family planning in developing nations through the medical center approach, the population growth limitation approach, and the social development approach. These efforts, while commendable for their measurable success in many areas are not without problems. A number of factors seem to influence success in family planning education efforts. They include: (1) having clearly defined objectives and evaluation strategies; (2) giving adequate attention to women's roles within and outside the home; (3) mobilizing effective and sustained support of men; (4) making efforts to direct specific development communication strategies toward target groups; (5) adequately training educational workers; and (6) making efforts to link national program efforts with appropriate local institutions in order to gain recognition and support from these bodies. Although some of these factors were taken into account in some of the examples I've cited, future family planning efforts will no doubt be more successful if all of these factors are given careful consideration.

REFERENCES

Bamisaiye, A., DeSweemer, C., & Ransome-Kuti, O. Developing a clinic strategy appropriate to community family planning needs and practices: An experience in Lagos, Nigeria. *Studies in Family Planning*. 1978, 9, 44.

Burke, S. *Responsible parenthood and sex education*. London: Proceedings of a Working Group of International Planned Parenthood Federation. 1970.

Clinton, J.J., & Baker, J. Introduction to East Asia review. *Studies in Family Planning*. 1980, 11, 311-316.

Concepcion, M.B. The Philippines. *Studies in Family Planning*. 1980, 11, 35-40.

Keeny, S.M. East Asia 1976-77: An overview. Studies in Family Planning. 1978, 9, 253-254.

Lam, P. & Berry, K. Hong Kong. *Studies in Family Planning*. 1978, 9, 234-235.

Loh, M. Singapore. *Studies in Family Planning*. 1978, 9, 246-247.

Okobiah, O.S. Effects of population change on family life and the child: Implication for home economics programs in Nigeria. *Family Relations*. 1981, 30, 49-54.

Paolucci, B., Bubolz, M., & Rainey, M. *Women, Families and Non-formal Learning Programs*. East Lansing, Michigan: Institute for International Studies in Education, Michigan State University, 1976.

Sung, K. Family education as an integral part of daycare services in Korea. *Studies in Family Planning*. 1978, 9, 71-74.

United Nations. *Social Welfare and Family Planning*. New York: United Nations, 1976.

Varakamin, S., Klinshom, P., Devaphalin, V., & Narkavonnakit, T. Thailand. *Studies in Family Planning*. 1980, 11, 347-350.

Alternate Development Communication Efforts for Science Education in Rural India

SHASHI R. PANDEY AND ASHOK BHARGAVA

For the development process to become self-sustaining, building the abilities of people is an important element. Few will deny the importance of education as a critical input for making a society economically more developed and socially more just and equitable. However, questions like, "What kind of education can possibly play such a role?" "How can a system of education that is linked with the social life of a community be developed?", and, "What is the role of science education and of communications for developing and spreading such a system of education?", remain subject to debate.

An attempt to answer some of these questions can be made in light of development communications experiences in India. In the past few decades, centralized communications (mass media) has been used in India to direct change from outside, and the focus of this process has rarely been on the rural poor. However, there have been some exceptions through nongovernmental voluntary efforts. Ways to increase the access and the quality of information and science education for rural communities have been explored, and attempts to generate an interactive communications process that involves rural people and invokes their participation have been made.

This paper is concerned with the experiences of these nongovernmental voluntary groups and the role which communications could play to promote an appropriate science education. The object of this paper is to review three contemporary rural education experiments in India as the modes of an alternate communications process, and to analyze their effectiveness in: (1) overcoming the urban bias of the contemporary mass media, (2) integrating local media, and (3) increasing participatory social action.

The paper is divided into three parts. In the first part, the shortcomings of the communications process as it relates to development efforts in general, and in the case of India in particular, are discussed. It is shown that communications has played either an over-enthusiastic (independent) or a passive (supplementary) role in the development process. In India, it has remained urban-originated and urban-oriented. The second part of the paper, on "Modes of Development Communications," discusses three rural voluntary-action groups for communication education in Central and South India. These experiments have tried to remove the shortcomings of the existing education and communications channels. They demonstrate alternatives in science education by integrating the communications process with the local environment. Finally, in the third part on "Experience of Experiments," lessons regarding the potential and the limits of formal science education and of communications are derived; and a need for a communications approach based on culture and participation is suggested.

COMMUNICATIONS FOR DEVELOPMENT

Most development communications efforts presuppose a model of development. In theory, the communications process has the potential to be a tool of social change. However, in practice, it has fallen short of its probable role. It has suffered from three shortcomings: (1) communications has been a prisoner of the dominant paradigm of economic development (Kearl, 1976), (2) communications has remained synonymous with a one-way process concerned with the dissemination of technical know-how, and (3) communications has been regarded as a value-free medium that could play an independent role. Let us examine each of these shortcomings separately.

The concept of development has gone through many changes, from indexing and differentiating approaches to the models of exogenously induced change (Golding, 1974). The mass media have followed suit and, as is shown in Table 1, have played a supplementary role, merely supporting these strategies. In the index approach, productivity (gross national products), and accumulation are

Shashi R. Pandey: Graduate Student, Land Tenure Center, University of Wisconsin-Madison. Ashok Bhargava: Professor and Chairman, Economics Department, University of Wisconsin-Whitewater.

Table 1. Correspondence between the models of development and communication

Development models	Communication Strategy
Growth, index model	Number of schools, newspapers
Sophistication of structure	High technology & institutions
Exogenous change model via:	Transfer of information via:
Community development	Diffusion
Green Revolution	Package
Models in theory:	Strategies on paper:
Basic needs	Cultural emphasis
Participation	Feedback
New International Economic Order	New International Information Order

important factors. The number of schools, radios, and newspapers become the goal as well as the barometer of the success. Theories of differentiation treated developing societies as "simple," and in need of "sophisticated" (Western) institutions. The communications strategy shifted from increasing numbers to acquiring high technology and creating complex centralized institutions. Theories of exogenous change suggested that static societies could be brought to life by outside knowledge and resources. The focus of communications moved to extension workers, diffusion of ideas, and package deals. When alternate models of development such as the basic needs of participatory approaches were proposed, they were tagged onto the management model of development. In the field of communications, a corresponding strategy "on paper" including feedback and cultural inputs was added.

The correspondence between development and communications was not limited to the follow-up of outward approach but also to the psychological basis of the strategy. The development process was regarded as the adjustment of the individual to new technology, to new values, and to the status quo so that communications strategies also concentrated on the individual enlightenment.[1] The macro-sociological and the overall political questions involved, which scrutinize the social system as a whole, did not attract the attention of most communications workers (Beltran, 1975). They did not question either the hypothesis of development models or observe the reality as seen, but took it as given.

Secondly, the role of communications in a process of dispersing information is tied not only to a top-down model of development but also to the inherent limits of a borrowed medium of communication. Mass media presuppose a homogeneous society and centralized control. This alien technology became a goal in itself that was not based either on dialogue or on local media, so it failed to be a link to the rural poor. It was information-as-a-resource-based and therefore created another gap, "the information gap" (in addition to the already existing "income gap"), and became in the hand of the rich a new tool for exploitation.

Finally, communications was regarded as value-free and independent, i.e. free from the cultural and political context. Since this neglected the social matrix, cultural forces overwhelmed it. Because people (village-level workers, bureaucrats) were value-loaded, the process of communication became one-sided and misguided.

It is inconceivable that communications can be effective without taking into account the rules, customs, beliefs and rituals of a community. Communications cannot be an independent variable as it reflects social relations; in fact, it can reinforce already existing disparities.[2]

Two opposing views have often been debated: one, "information can do all," and two, "information cannot do much without structural change" (McAnany, 1980). The first view suggests that increased information will naturally lead to growth (in the sense of greater control over the environment), the second view holds that increased information is useless because of structural constraints. Both the views are too limited and narrow. Information itself has no value. Its value lies in how it is used, and that depends upon specific situations. More information cannot increase peoples' control over their environment, unless the information is appropriate to their environment, and is conveyed in an acceptable way.[3] Likewise, structural constraints may render some information useless, but structural constraints are also a part of the environment. However, information about structural constraints could help people gain greater control.[4]

The understanding of the communications process and the use of appropriate methods could play an important role in the process of change, if the limits and the roles of communications are properly analyzed. Change in how and what an individual does are both a function of the nature of the

world and the nature of his conception of that world (Whiting, 1976). Communications help to change the latter to liberate the consciousness of the oppressed. It cannot create change. It can help create a background for change by providing the necessary setting and information. Both the medium of communication and the content of information have to be relevant and appropriate to the surroundings. Communications is firstly only one vector in a complex structure of the development process, and secondly, a necessary component but never sufficient.

It is short-sighted to conclude that the mere appropriateness of a medium will ensure its implementation. In a certain sense, communications is a technology. All appropriate technologies face the problem that they are a technological fix, which is not enough. Change has to be backed up by political will. Communications is neither ideologically free nor politically neutral. That is why the medium and the process of communications can neither take social reality as given nor lose sight of the political dimensions of control.

Inadequate understanding of the relationship of communications to development and its inherent limitations has led to unrealistic high hopes. In past decades, media, science, education, and social engineering were the watch-words of the future. Today, all four are found wanting. They have failed to fulfill the promise of a better, more egalitarian, and less violent world. Instead, the past decades have witnessed the emergence of three dominant world trends. One, the increasing rather than decreasing division between the rich and the poor, both between and within states. Two, the phenomenal growth of state power and the growth of communications media as instruments of domination. And three, the increasing powerlessness of poor people.

In today's world, poor people cannot hope to survive without proper information. In reality, their access to appropriate knowledge and skill is continuously denied and the communications channels continue to be biased against them in most developing societies.

Communication in India

India is a vast and varied country with 784 million people, speaking 17 major languages. Most of the people live in 575,000-odd villages. The task of adequate communications support is a formidable one. How the tools of communications could be a vehicle of efficient change in each village, with relevant and easily understood messages delivered on a regular basis and at a reasonable cost, has been the prime challenge for government and planners.

In the context of communications, there are three major factors which should be considered: medium, message, and masses. In spite of the fact that India produces the highest number of feature films (764) annually in the world, and has one-third of the world's technical manpower, its media statistics reflect a depressing overall picture. In 1980, newspaper circulation totaled 13 million, that is one newspaper for every 50 persons (1:50), periodicals 33 million (1:19), radio receivers 20 million (1:32.5), TV receiving sets, 1.1 million (1:390).

The overall media reach in India is below the minimum desirable standard set by UNESCO in 1961. Hidden within these bald ratios are still more depressing distortions in social reach. One obvious aspect is the focus on catering to the middle class. The rural-urban differential is another recognized fact. Finally, the least considered, but no less significant factor, is the sex differentiation.[5]

In reference to rural areas, modern mass media received more attention than traditional media, but all the three forms of formal communications--press, radio, and TV--failed to reach the large masses of the rural poor. Because of the concentration of literacy and purchasing power in towns and cities, daily newspaper circulation is overwhelmingly urban. Only 20% of the 20 million radio receivers are in villages, and the community listening sets in villages number fewer than 5,000 radios and fewer than 1,100 TVs. Two out of three villages in India do not have electricity, so access to a centralized TV or satelite system[6] has remained beyond the reach of most rural poor.

The communications support for rural areas was also provided by extension workers. But the number of village level workers (VLWs) is alarmingly low. Raghavan (1980) suggests that there are 800 million farm families in India and 15,000 VLWs. This gives a ratio of approximately 1 VLW to every 5,333 farm families. As far as formal schooling is concerned, first, the enrollment ratio is low; second, the educational system is a relic of the colonial past and is irrelevant to the village environment; and third, 60 to 70% of village children fail to benefit from formal schooling because they are used as workers for economic purposes. There is no formal or nonformal rural education structure that confronts the rural reality. No educational structure exists that can teach villagers to think scientifically, and help them to understand their environment and solve their own problems. Failure of effective communication in rural India has been due not only to the

improper use of media but also to the inappropriate use of messages and inadequate understanding of the masses by communicators. The information gap and distance have been created because many discourse styles of modern media are far removed from the "business and bosoms" of the rural folk. There is an inadequate understanding of the holistic oral model and folk rhetoric of rural people.

Until three decades ago, mass communications in India took place through nonmass media. Traditional art as a medium is a living symbol that carries the "light and delight" of the grass-roots culture of the past, through the present into the future. This medium has been mishandled by overloading it with modern messages. A careful and natural balance is needed between traditional art and modern messages. For that balance, clear understanding and appreciation of the various forms of indigenous methods of communications are required.[7]

It is easy to analyze the current "area," "class," and "modern" biases of the media and suggest a local, decentralized communications system that acts as a dialogue and multilogue, and that mixes with local culture (Eapen, 1975). The concept of mass media that presupposes a homogeneous social and centralized control is not appropriate here, but a real question is, could a "class media" deliver a "mass message"? Should it deliver a message, and who will deliver it in the absence of a national political will?

These questions have been addressed in India by three voluntary groups from three perspectives. One group believes that biases could be corrected if people understand their environment and structure better. This group believes people should be equipped to analyze themselves scientifically, and that the start should be made at the level of elementary science education. The second group takes the view that, rather than people reaching to science, science should come to the people. Multimedia forums and science carnivals should be used to provide the setting for discussion within the folk surrounding. Conscious citizens and social activists should act as a catalyst for this process. The third group tries to expose the ill-effects of development by linking itself directly to--and by strengthening--local and regional newspapers.

EXPERIMENTS IN MODES OF DEVELOPMENT COMMUNICATION

Rural Science Education in Madhya Pradesh

Kishore Bharati (KB) is an independent voluntary agency involved in the field of rural education and development in Hoshangabad District of Madhya Pradesh (MP). This group has systematically tried to explore the role of education in rural economic development and social change through an action-based research project. The basic assumption has been that education can be an effective instrument for catalysing development, and raising the latent potential of rural people, especially of those from the landless and marginal farmer class. This group's educational work has been channeled through both formal science teaching programs and nonformal educational efforts.

The formal structure of school barely exists in rural India. If it exists, science education is passive and unscientific, i.e. characterized by rote learning of alien subject matter in the absence of questioning and participation by students and teachers. There is a high rate of school dropouts, and class meetings are often interrupted by the social structure of rural society (KB, 1979). Education almost everywhere is a process of selection by gender and class and it supports conformity to the status quo. Rural education in India is no exception to this. In addition, it is burdened by an urban middle-class bias and by the colonial content of the past, thus, the contextual difficulty of structural inequality of the present rural community. These facts are realized by the volunteers of KB, many of whom are trained scientists. They want to improve the style and content of rural education through participation of, and dialogue with, students and teachers.

In 1972, KB acquired the state's permission to experiment autonomously on nine middle schools of Hoshangabad. Their work started with rewriting textbooks with the help of students' and teachers' feedback. They discovered many irrelevant and alien phrases, lessons, and concepts in the textbooks, and replaced them with familiar objects of the rural environment and local terms. The texts were supplemented by zero-cost experiments[8] to discourage passivity and encourage experimentation and analysis. Teachers were trained in this new style of education; constant visits and communication links were maintained with those schools where this educational material was utilized. The annual performance of the students who took this course was better than those from other schools in the state. Some 40,000 children today in the middle schools of MP are taking this pioneering science course called 'Hoshangabad Science' (Surya, 1981). Devised by voluntary participation of scientists, educators, and school teachers, the method relies extensively on inexpensive, easy to assemble

experiments that stimulate children's interest in science, that increase their understanding of the environment, and that prepares them to analyze broader issues. How far this formal "cause-effect," "probability" training will reach the analysis of social phenomena is yet to be seen, but a beginning has been made. Valuable lessons have been learned regarding the role of science education and the importance of on-site communication dialogue, conceived as a relationship process (Sadgopal, 1981).

Kishore Bharari has also investigated the possibility of building up a nonformal education system around agricultural activities. The role of education for youth leadership and for organizing poor peasants[9] is undergoing planned experimentation.

People's Science Movement in Kerala (Science March, Through the Medium of Art)

The people's science movement in Kerala was initially a city-based voluntary intellectual movement. It started in the form of science clubs, classes, and magazine publication. Slowly, the number of classes and clubs increased and dispelled the belief held by many that people cannot think in ways different than they are accustomed to. It was decided in 1975 to embark on a massive program of classes and discussion about problems of economic growth. The aim was to mobilize people for their own development as against the kind of development which is handed down to them. This required identifying of basic social and economic issues. A book entitled "Resources of Kerala" was prepared by individuals with an aim to figure out all the resources of the state, how they could best be utilized, and what institutional mechanisms existed for their efficient utilization.

Workshops for about 200 volunteers were held, and the book was discussed thoroughly. Volunteers in turn conducted workshops in different districts for more volunteers. Within six months, about 12,000 classes were conducted as the first step in popularizing the need for interaction with people on the problems of the state (Kannan, 1976).

To reach villagers with the message of the people's movement, a "long march" called Science Procession was undertaken by a team of activists towards the end of 1977. Starting from the north, this traveling exhibition traveled 10,000 kilometers, contacting 500,000 people through 900 public meetings. Booklets on selected themes were prepared[10] and distributed. The procession lasted 37 days and received enthusiastic welcome from the villagers. Apart from spreading its message, the group was able to enlist new local activists.

The mass education continued in 1978--not only with booklets and meetings but also with an accompaning mobil medical camp. Since then, it has become an annual multimedia mobil forum with art, drama,[11] and visual and oral folk methods added to it. It tries to highlight people's concerns and to actively involve people through educational dialogue with question-answer sessions. In Kerala, each October brings a surge of excitement; hundreds of villagers wait for folk artists to perform short skits on a wide range of social and scientific issues.

In order to mobilize people, just teaching and popularization is not enough. Their dissatisfaction has to be channelized. These opportunities came when the difficulty of people with a particular project or factory were heard. Local people themselves requested activists to come and conduct studies. One of the first attempts in this direction was the socioeconomic study of water control projects implemented in a water logged region--Kuttand, in South Kerala (Kannan, 1981). The approach of the activist in such cases was to prepare a report with people's input and popularize it. The aim was to bring out the socioeconomic drawback of the project and draw a set of alternative proposals to suit the environmental and economic requirements of the area. The group has come up with a program that involves common people in the planning and analysis processes.[12]

With its annual multimedia issue-oriented science exhibition and procession, and its emphasis on seeking input from people, the people's movement of Kerala is unique. It demonstrates the possibility of active participation by people when adequate and appropriate channels of communications exist.

Centre for Science and Environment in Delhi

The Centre, established two years ago, is a recent voluntary communication group effort. It was started by a group of scientifically liberated people who felt that the demystification of science coupled with outreach to small towns was vital to balanced social development. The action of the Centre for Science and Environment (CSE) was based on the following two observations:

1. Development plans and projects are negligent about the health and environment of the people, and this information is not reaching the people.
2. One of the reasons it is not reaching people is that the small scale local and regional newspapers, read by the majority in small towns and villages, do not have access to development news or news of the national environment.

The Centre started to provide regional and national news to the small papers at a minimum cost. News was translated into local language. In collecting news, the Centre solicited the support of grass-roots workers and regional activists whose input was never sought before. Some of these unique hidden news items were also sold to big newspapers and a few of them stirred public dialogue. After collecting sufficient information, the Centre published a national report on *India's State of Environment-1982*. This is a unique report. It includes inputs from many parts of India and it was prepared by citizen's voluntary and participatory contributions. It is a demonstration that people have insight. When asked and when given the chance, they can suggest plausible alternatives.

The State of Environment Report is planned to be an annual publication totally funded by the advanced selling of the books, and prepared by voluntary effort. For the first time, a national level report provides a detailed picture of what the figures on pollution, soil loss, reduction in pasture lands, depletion of fireweed, and the rest mean to the lives of ordinary people. The centre is currently engaging in two projects:

1. Exposing the ill-effects of technology, especially in the medical and health care fields. Modern science and technology are being introduced in the Third World faster than literacy and other aspects of social development. In towns, and especially in rural areas, science and technology are becoming the new superstition. Blind acceptance of "Western" science and technology[13] overlooks the value of traditional ideas and methods; herbal remedies are ignored.
2. Investigating the probably effects of future advanced technology for a country like India. Not all new technology is appropriate. Before it is blindly borrowed, it should be analyzed within the national and international context.

The CSE is not only an information service. It is also an experiment in people-based participatory media. It encourages citizen's voluntary investigation and gives them a national voice. It does not communicate on a regular basis to villagers as such, but it generates a resource and relevant pool of information that could be used by other local agencies. Thus, it fills a void between national and local media, and tries to create a momentum for indigenous consciousness and mobilization (Gribben, 1982).

EXPERIENCE OF EXPERIMENTS: TOWARDS LIBERATIVE COMMUNICATION

We started our discussion with a need to build the ability of people. For a development process to be effectively guided and carried out, the strategy cannot be dominated by alien or elite ideology. The masses have to own not only the means of production, but also the means of thinking, and the means of thinking is a very important form of capital. Those who "have not" has, in this context, reached dimensions no less formidable than the gap in access to economic assets (Rahman, 1981). The processes of closing these two gaps have to proceed simultaneous. This is where a vigorous interaction between the intelligentsia and "the man on the street," through a genuine dialogical and participatory approach, has an important role to play. This is where the communication efforts of the three experiments described in this paper play a pathbreaking role.

The rural poor of India have been negatively influenced by borrowed development models and the Western method of education and communication. The endogenous development of people's science has been stifled by the domination and assumed glamour of formal science. This domination is allied with economic power, also over the people. However, this unhappy relation could be transformed into a mutually enriching interaction, as demonstrated by the voluntary efforts described in this paper.

Three means and ways to transform this relationship have been identified. First, by the approach of formal science to people, voluntarily, as in Kerala. Here, the design is not to teach or transfer knowledge, but to contribute to the organic development of people's knowledge by working with the people rather than in their stead. Second, by focusing on the primary role of science education, efforts like that of KB enable the people to comprehend the sociopolitical reality of their environment through the scientific method. Thus, their struggle for justice and development can be planned on the basis of reliable data and logical thinking. Third, by the process of mass education like that of CSE, the news and method of science spread among common people. This enables common people to understand the obstacles that prevent development. Truly, it enables them to successfully voice their concerns and to plan their struggle for justice.

How a theoretical understanding of the role of science and education can function in practice was demonstrated by the voluntary experiments. Alternate modes of communications to remove the biases of the existing communications channels were tried. The

success of localized, face-to-face communications through familiar terms and media was demonstrated. The success of these experiments demonstrates the utility of local media and the importance of considering the cultural context of communications.

In a highly structured society like India, the traditional and ritual forms of communications are important. Carnivals and fairs offer opportunity to renew community bonds, they also provide opportunities for communication and learning exchange in a pressure-free and acceptable environment. People prefer face-to-face, touch-and-feel communications to the impersonal and disjoint rhetoric of electric mass media. The contemporary communications system in India, as was indicated earlier in this paper, is by and large a world apart from the traditional system. It is one-sided, authoritarian, urban-paternalistic, assaulting, and far from the reach of rural people. The CSE tries to correct this formal bias directly by substituting and promoting an alternate process. The Kerala experiment integrates folk surrounding in its science marches. The KB tries to prepare a long-term autonomous base of scientific thinking through on-site appropriate education dialogue and face-to-face communication.

These experiments share some common ideology and assertions that can be summarized as follows:

1. Information about under-utilized or misutilized resources is not available to people.
2. People are kept ignorant. Urban media and formal science perpetuate unequal social relations.
3. Structures could be changed by understanding them. Solutions exist within the given system.
4. People posses the power to understand and change.
5. Science education can equip people with analytical tools. Proper communication can help facilitate this process.

Some of these assertions have been demonstrated: for example, the people's ability to analyze, and the rural teachers' insight for making better textbooks has been shown. Still the enthusiasm about the scientific method is reaching a plateau. Groups like KB have realized the limits of scientific methods in social analysis (Sadgopal, 1981). There are two lessons from the KB's experiments:

1. Correct observation and scientific analysis are helpful for comprehending the sociopolitical reality. The potential of the scientific process is not confined to the educated elite. Such potential exists among the oppressed and the uneducated people, and can be further enriched through proper communication and experience-based education.
2. There are inherent factors in the social sciences that limit the application of scientific methods: one's cultural and economic background may color one's analysis. Similarly, the attempts to improve observational skills and analytical abilities often do not succeed where there is a clash of vested interests. This is where formal education and communication reaches one of its limits.

Another limit of these experiments are that they are localized, voluntary, and small scale. The success of Kerala's experiment depends on the already high educational and literacy rate of the state. It is doubtful that this process could be repeated in other states. The school education experiment of KB is a pilot project. It was conducted in a small number of schools of a district in MP. At some stage, this project has to be taken over by the government. It may become the victim of neglect and of the inefficient bureaucratic, paternalistic, top-down approach of the state. To the state, these new lessons of alternate communications may or may not mean much. The prospects of alternate press media like CSE are hopeful, but the demands of uncertain funding and voluntary journalism of high quality are enormous.

In spite of these limitations and uncertainties, the role of local science and of folk and decentralized communications are very important. First, it eases the tensions between the disadvantaged and the elites. Second, it begins to lead to better people-oriented strategies. Third, it starts to evolve a liberative communication process that liberates people from regressive old traditions and also from the contemporary oppressive modernization of biased communication and development strategies (Saint, 1981).

Communications can facilitate the process of change in rural areas. But, the social structure of contemporary society may inhibit successful communications. Therefore, voluntary efforts like the three experiments described here are needed to organize and involve the people who are intended to benefit so that they may obtain the advantages of communications resources. At the moment, voluntary efforts are playing pilot demonstration and alleviating roles. Their transformative role is yet to be seen. They have, however, shown that demand for equity is essential. Communications should

not only build cognitive structures of awareness, it also should promote equity for the rural poor--men, women, and youth. Voluntary experiments also bring out the necessity of a decentralized multimedia approach to facilitate the liberative communications process. These experiments have been successful because of the constant presence of, and outside links with, activists. How far this liberative process is self-sustaining and self-duplicating is yet to be seen and analyzed.

NOTES

1. Conceiving development as the adjustment of individuals and groups to the established social order results when internal social conflict begins blaming individuals rather than the society.
2. For example, if the trend in an area is toward income or educational disparities, the introduction of new information without structural change will increase those disparities. Rutten (1977) discusses this in relation to agricultural information as does Katzman (1974) in relation to new communications techniques.
3. "New sources and supplies of information do not release peasant farmers and workers from the complex linkages which control their use of the factors of production and fix their social status in the community." (Felsethausen, 1972, pp. 42).
4. For example, peasant farmers may know that the intended message is useless in their situation. The unintended and useful consequence, however, may be that they understand something is possible and that their lives need not continue as they are.
5. Only one percent of all women in rural India read a newspaper or a periodical regularly. Issues relating to women such as *Women social issues and human interest news items* command about 4% of newspaper space (Indian Express, Jan. 28, 1983).
6. Arguments against TV range from audience issues (i.e., audience retention of message is poor) to TV's lack of interpersonal contact. Satellite programs are criticized because they are concentrated in a few villages which have electricity. Additionally, they are criticized because of the high-technology they require that creates international dependency for the technology.
7. Based on form, content, and performance situation, the traditional styles of communications can be divided into three categories: ritual, traditional, and functional (Ranganath, 1981). Ritual arts, like tribal dances and religious acts, should best be left untouched in relation to a communications strategy. They are riggid and reject the new, "foreign" messages. Traditional forms, which draw themes from the classics and ancient lore are more flexible. These could be judiciously employed as message carriers. The third category of functional/folk acts, songs, and narration are ideally suited for development communication. They are intrinsically flexible and can absorb contemporary messages. They are immensely effective because they are part of the way of life and provide an acceptable means of bringing development issues into the community on its own terms.
8. Some of the zero-cost experiments were demonstrations of digestive processes using saliva, dough, and iodine; the making of scales using leaf cones; and using the leg of upturned tables for chemical stands.
9. See Sadgopal, 1981.
10. Selected themes for the booklets were: "Science for Social Revolution," "Industralization in Kerala," "Labor Power: Our Greatest Wealth."
11. For example, the following skits were prepared: "War: An Account of Multinational Drug Companies," "Hell: A True Life Description of a Government Hospital," "Parrot: A Parody on Educational System."
12. Each village council will prepare a science and technology action plan for the village. The process will involve the educated unemployed of the locality. These village plans will be pooled together by an expert committee to form a comprehensive development plan for the State.
13. The "injection mania" exists all over the Third World. Villagers believe that injections can cure everything. Doctors have fostered those beliefs. They have generated

dependence on drugs for their own profit and for the profit of drug companies.

REFERENCES

Beltran, L.R. Alien premises, objects and methods in Latin American communication research. *Communication Research 3*, April 1975, 107-134.

Eapen, K.E. Appropriate structures and organisation for communication agencies. In M. Masani (Ed.), *Communication and rural progress*. Bombay: Leslie Sawhny, pp. 35-40.

Felstehausen, H. Conceptual limits of development communications theory. *Sociologia Ruralis 13*, No. 1 1973, 39-54.

Golding, P. Media role in national development: Critique of a theoretical orthodoxy. *Journal of Communication 24*, Summer 1974, 39-53.

Vigyan. *Science Today*, December 1977, 13-23.

Gribbin, J. The other face of development. *New Scientist 25*, November 1982, 489-495.

Kishore Bharari Group, The Hoshangabad Vigyan. *Science Today*, December 1977, 13-23.

Kannan, K.P. Science for social revolution. Economic and Political Weekly (July, 26) 1976. A people's science movement. *Development: Seeds of Change*, No. 1 1981, 37-40.

Kannan, K.P. *A People's science movement. Development: Seeds of Change*, No. 1 1981, 37-40.

Katzman, N. The impact of communication technology: Promises and prospects. *Journal of Communication 24*, Autumn 1974, 47-58.

Kearl, B. Communication for agricultural development. In *Communication and change: The last ten years--and the next*. Honolulu: University Press of Hawaii, East-West Center, 1976, pp. 1070.

McAnany, E. The role of information in communicating with the rural poor: Some reflections. In *Communications in the rural third world: The role of information in development*. New York: Praeger, 1980.

Raghaven, G.N.S. The new approach to development: Implications for communications policy. In *Rural development and communication policies*. New Delhi: Indian Institute of Mass Communication 1980, pp. 166-181.

Rahman, A. Knitting together. *Development: Seeds of Change* No. 1: 43-51.

Ranganath, H.K. Traditional change-agents among rural communities. In *Communication and the Traditional Media*. New Delhi: Indian Institute of Mass Communication 1981, pp. 32-41.

Rogers, M. *Communication strategies for family planning*. New York: Free Press, 1978.

Sadgopal, A. Between question and reality. *Science Today*, October 1981, 22-31.

Saint, K. Liberative communication for true communication. In W. Fernandes (Ed.), *Participatory Research*. New Delhi: Indian Social Institute, pp. 83-92.

Surya, V. A new approach to teaching science. *Illustrated Weekly*, March 1979, 42-43.

Whiting, G.C. How does communication interface with change? *Communication Research 3*, April 1976, 191-212.

Concluding Remarks

MICHAEL L. BRADEN

Let me just restate the announced purpose of this symposium so that we can take stock of what's happened here today. The symposium was "to provide an opportunity for participants to explore and discuss the role of development communications in the Third World as it relates to agriculture, health care, and education." Perhaps as a way of summing up we can ask ourselves whether we've done that, whether we've met those goals.

As we look at the literature in print we can see two trends or approaches that dominate. One is the approach of the researchers whose investigations have led through the diffusion theory to the dependency theory and beyond, as Dr. McAnany outlined this morning. These are the people who question the hows and the whys of development communications. And they are often critical of what they, through inquiry, find. What they are saying is that psychological, sociological, political, and economic factors are all involved in development and development communications, and that each must receive attention.

The other approach is of the agricultural or development communicator. The person who is in the field, actually confronting the task of helping people better their lives somehow, through modern science and technology as they might apply to agriculture, or health care, or education.

By inviting papers that touched on the political, technological, and practical dimensions of development communications, I think we've tried to see whether these two approaches have anything to say to each other. That was a risky undertaking. At least theoretically, the approaches could have been from such totally different perspectives they would have had little in common. As I looked at the schedule for this symposium and the topics to be addressed, I wondered whether those interested in the broader political and economic issues of development communications could learn from those who are engaged in the design and implementation of on-going media campaigns, and vice-versa. But, I think the conference has been modestly successful in raising important questions that can benefit both perspectives.

I think one of the most important question raised today is a fundamental one, from which we can all learn. It is a question that can be asked of all communications projects in developing countries: who is the ultimate beneficiary of these projects? Or, phrased somewhat differently: communication for whom? Historically the United States, and the countries of the developed world in general, have taken *their* economic history and *their* development pattern as a model for the rest of the world. In an outburst of optimism, we have applied these development and communications theories directly to other cultures.

We have taken advantage of *our* self-confidence, of *our* pragmatism, and *our* belief that science and technology, when applied to problems of underdevelopment, would make those problems disappear or bring them to a successful conclusion and would help countries move themselves "into the 20th century."

As Dr. McAnany has pointed out, despite the optimism of these theories, modernization and rapid diffusion of technological innovations has not been as successful as we had hoped. We began to realize that there were many intervening variables, factors that limited and compromised the success of each campaign. And I think these factors have been addressed in many of today's presentations.

Lynda Harriman's review of the Family Planning Campaign is an example of the type of program that has been and will continue to be of importance in development planning. But it is also an example of the potential conflict of values with which the designers of these programs constantly cope. Carla Health, in her discussion of telecommunications in Africa, suggests that despite the rhetoric of development plans for telecommunications, unspoken economic and political pressures within the country often dictate

Michael L. Braden: Graduate student, Communications, University of Illinois at Urbana-Champaign.

the actual implementation of these well-meaning plans. The implementation of the plans reflects the needs of urban areas rather than those of the rural poor who are, by the way, rarely consulted about their needs.

And so some questions arise. What political and economic pressures are exerted on the other development programs with which we all have some contact? Who really is benefiting--the rural farmer, or some distant politician, or a businessman running a factory? And who will claim credit for spectacular, but perhaps short-lived, communications projects?

Cristin Merck's paper calls attention to the efforts of developing countries to secure for themselves a source of information, a news service that is more responsive to their needs and the needs of the local area, and less determined by the contexts and biases of western-developed news services. It also focuses attention on the importance of information in development. Information can help provide a sense of identity to the people for a developing area; identity, and perhaps pride in themselves and what they can do for themselves.

The question of "communications for whom" received its clearest response in the presentations of Shashi Pandey and Kathleen Goodman. Here we see communications used in ways that are responsive to the local needs of people. In Goodman's paper we saw a radio based teacher education program that has made significant efforts to respond to the needs of rural teachers and to their social context. Pandey's work demonstrates the limitations of centralized, one-way, and top-down models of communication and communications projects. His presentation underscores the social context of mass media by acquainting us with the urban bias of many communications projects. As a response to this bias, he discusses three rural action groups which involve the local population and take seriously the cultural backgrounds of the rural community. These groups see that their audiences are not passive consumers of information. Rather, they are active and intelligent people who are conscious of their own needs and willing and able to participate in their own education when given the opportunity to do so.

Reiterating Dr. McAnany's points gives us a starting place for movement beyond this symposium. In many ways, the fundamental question that I mentioned earlier--the question of development and communications for whom--is elaborated in the points that he has made. First he suggested that communications for development occur in a social context. We must begin to take seriously the genuine needs of rural people and the fact that they have a culture that is just as valuable as our own. They have their own traditions and their own communications systems, and these may be more efficient than high technology mass medium systems imposed on them. We should also be aware that the strategies of communication campaigns must vary from society to society. A strategy that is successful in an African society may not, probably will not, be successful in a Latin American country or an Asian country. And yet, the notion of social context, extends beyond these to consideration of national and international, social, political, and economic relationships that have important impact on development and development communications.

Dr. McAnany's second point is that the question "for whom?" applies, as well, to the planning of development priorities: for *whom* are these things being planned? *Who* will benefit ultimately from these allocations?

The same question about priorities has to be applied to communications media as well as to communications planning. *Who* will benefit from the adoption of communications technology--satellites, for example? *Who* benefits from this high, and very expensive technology, as it's introduced into various areas in the world?

After we aid in the creation of communications policies, will they serve to democratize communications and serve the needs of the whole society, not just the needs of small, but influential, special interest groups? Central to this idea is the notion that we should encourage communications that will aid the genuine organization of rural peoples, rather than substitute for it, or worse, block it.

My final point is that I believe we have to ask *ourselves* the same question, the difficult question--development for *whom* or communications for *whom*--because *we* are integrally involved in development and communications research and practice. Beginning to ask this essentially ethical question puts us in an awkward position.

Implicit in theories of modernization and diffusion of innovation are assumptions about the effects of these strategies on other cultures, the dynamics of development, and the value and correctness of what we are doing. Often we naively believe that by applying "value-free" science and technology, whole countries will benefit. Now we're beginning to see that there are some reasons to doubt these assumptions.

The question of "communications for whom" highlights everything that we've been talking about today. It also forces us to be much more critical of the social, political, economic, and cultural presuppositions

and consequences of the theories we apply, the research we do, the plans that we help devise, and the policies about which we consult. This includes our own tendency to be somewhat ethnocentric in the way we perceive the world.

Because of the biases that we bring from the fact that we are western, or the fact that we are western-trained, or the fact that we emerged from a culture that has the benefits of high technology, we begin to think that high technology media may have some kind of magic curative power. But they may not. For us they make life easy. For other people, they may terribly complicate things.

The symposium did not set out to solve the problems raised--that would have been unwise. The symposium will have been a success if those of us engaged in communications and development research, and those of us who are directly involved in devising field campaigns of development communications, can begin to talk and begin to learn from each other--from the practical experience that one brings, and from the theoretical perspectives and reflections of the other.

List of Symposium Participants

Mary Ann Alexander
Computer Science
304 West Elm--#6
Urbana, Illinois 61801

Zainul Azizan
Agricultural Economics
404 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Mamadou Bamba
Agricultural Economics
404 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Dorothea Bedigiar
Agronomy
Turner Hall
University of Illinois
Urbana, Illinois 61801

Michele Bertrand
Communications
19 South Lancaster Street
Athens, Ohio 45701

Robert R. Boucher
Political Science
811 West Oregon/Apt. 3
Urbana, Illinois 61801

Michael L. Braden
Communications
612 East Park Avenue
Champaign, Illinois 61820

Lovette Chunwah
307 Carriage Hill Drive
Athens, Ohio 45701

Joyce Dusenberry
Agricultural Education
42 Education Building
1310 South 6th Street
Champaign, Illinois 61820

Cynthia Erickson
Resource Specialist, Community Resources
Cooperative Extension Service
212 Mumford Hall
1301 West Gregory Drive
Urbana, Illinois 61801

James F. Evans
Agricultural Communications
58 Mumford Hall
University of Illinois
Urbana, Illinois 61801

John Fett
Agricultural Journalism
205F Agricultural Journalism
University of Wisconsin
Madison, Wisconsin 53706

Wojciech Florkowski
Agricultural Economics
305 Mumford Hall
1301 West Gregory Drive
Urbana, Illinois 61801

Candice Francis
School of Telecommunications
College of Communication
Ohio University
Athens, Ohio 45701

Upson Garrigus
Animal Science
328 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Nancy Gillard-Byers
2114 Orchard Street--#102
Urbana, Illinois 61801

Tom Gillard-Byers
Agricultural Economics
402 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Jane Gleason
Agricultural Economics
402 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Kathleen Goodman
International Education--Southern Illinois University
804 Twisdale
Carbondale, Illinois 62901

Norm Goodman
International Education--Southern Illinois University
804 Twisdale
Carbondale, Illinois 62901

Thomas Guback
Communications
222 Armory Building
505 East Armory
University of Illinois
Champaign, Illinois 61820

John Haefeli
Specialist in Automated Education--Computer-Based Education
252 CERL
103 North Mathews
Urbana, Illinois 61801

Lynda Harriman
Vocational and Technical Education--Home Economics
354 College of Education
1310 South Sixth Street
University of Illinois
Champaign, Illinois 61820

Carla Heath
Communications
ICR 222b Armory
505 East Armory
Champaign, Illinois 61820

Kenji Horiguchi
Agricultural Economics
405 Dodson Drive West
Urbana, Illinois 61801

Bonnie Hufford
1112 Wapak Road
Sidney, Ohio 45365

Eldon L. Johnson
Vice President Emeritus
1405 S. Prospect
Champaign, Illinois 61820

M. William Johnson
Department of Radio-Television
1046 Communication
Southern Illinois University-Carbondale
Carbondale, Illinois 62901

Rose L. Jones
1210 28th Street
Ames, Iowa 50010

Stephen Jones
1210 28th Street
Ames, Iowa 50010

Jae Tae Kang
Agricultural Education
357 Education Building
1310 South Sixth Street
Champaign, Illinois 61820

Mary Keith
Food Science and Nutrition
551 Bevier Hall
905 South Goodwin
University of Illinois
Urbana, Illinois 61801

Earl Kellogg
Office of International Agriculture
113 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Timothy Leonard Koehnen
Agricultural Education
357 Education Building
1310 South Sixth Street
University of Illinois
Champaign, Illinois 61820

Sashi Kolavalli
Agricultural Economics
402 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Pradeep Kotamraju
Economics
1403A Whitson Circle
Urbana, Illinois 61801

Pratap Kotamraju
International Relations and Communications
2403A Whitson Circle
Urbana, Illinois 61801

Emile McAnany
Department of Radio, Television and Film/
Latin American Studies Program
University of Texas at Austin
Austin, Texas 78712

Drew McDaniel
School of Telecommunications
Ohio University
Athens, Ohio 45701

Cristin D. Merck
Department of Agricultural Journalism
440 Henry Mall
University of Wisconsin
Madison, Wisconsin 53706

Omar Souki Oliviera
Communications
L-11 Mill Street Apts.
Athens, Ohio 45701

Tom O'Guinn
Communications--Advertising
119 Gregory Hall
University of Illinois
Urbana, Illinois 61801

Shashi Pandey
Development Studies
626 Langdon--#205
Madison, Wisconsin 53703

Frank Petrella
Assistant Professor of Printing
628 Medary Avenue
Brookings, South Dakota 57006

Jerry Pepple
Agricultural Education
353 Education Building
1301 South Sixth Street
University of Illinois
Champaign, Illinois 61820

Robert D. Porter
Education Policy Studies
363 Education Building
1310 South Sixth Street
University of Illinois
Champaign, Illinois 61820

Carolyn M. Pribble
Agricultural Development Specialist
113 Mumford Hall
1301 West Gregory Drive
University of Illinois
Urbana, Illinois 61801

Jafar Rassi
Extension Education
2014C Orchard Street
Urbana, Illinois 61801

Susan Carol Rogers
Agricultural Economics
Human Development and Family Ecology
1105 West Nevada
University of Illinois
Urbana, Illinois 61801

John Santas
International Education and Training
113 Mumford Hall
University of Illinois
Urbana, Illinois 61801

Joseph Seepersad
Agricultural Education/Agricultural Extension
University of the West Indies
St. Augustine
Trinidad, West Indies

Vickie Ann Sigman
Agricultural Education
357 Education Building
1310 South Sixth Street
University of Illinois
Champaign, Illinois 61820

K.S. Sitaram
Professor--Radio/Television
Southern Illinois University
Carbondale, Illinois 62901

A.J. Sofranko
Rural Sociology
Department of Agricultural Economics
1301 West Gregory Drive
University of Illinois
Urbana, Illinois 61801

Burton Swanson
Agricultural Education
3010 Foreign Language Building
University of Illinois
Urbana, Illinois 61801

Darunee Tan
Soil Science
131 North Orchard--#1
Madison, Wisconsin 53704

Molly Rose Teuke
Communications
34 Brown Avenue
Athens, Ohio 45701

Mareia Ulhite
Agricultural Economics
P.O. Box 2507 Station A
Champaign, Illinois 61820

Sonja Williams
School of Telecommunications
College of Communication
Ohio University
Athens, Ohio 45701